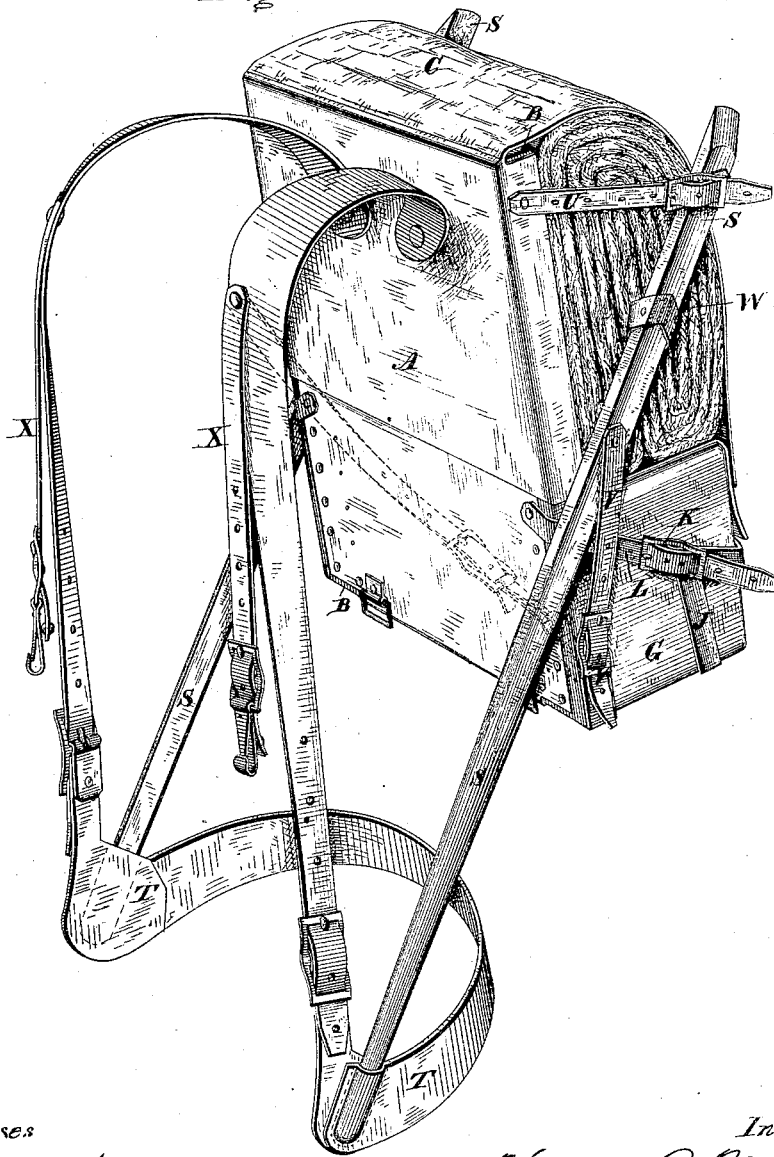


H. C. MERRIAM.
Knapsack.

No. 204,066.

Patented May 21, 1878.

Fig. 1.



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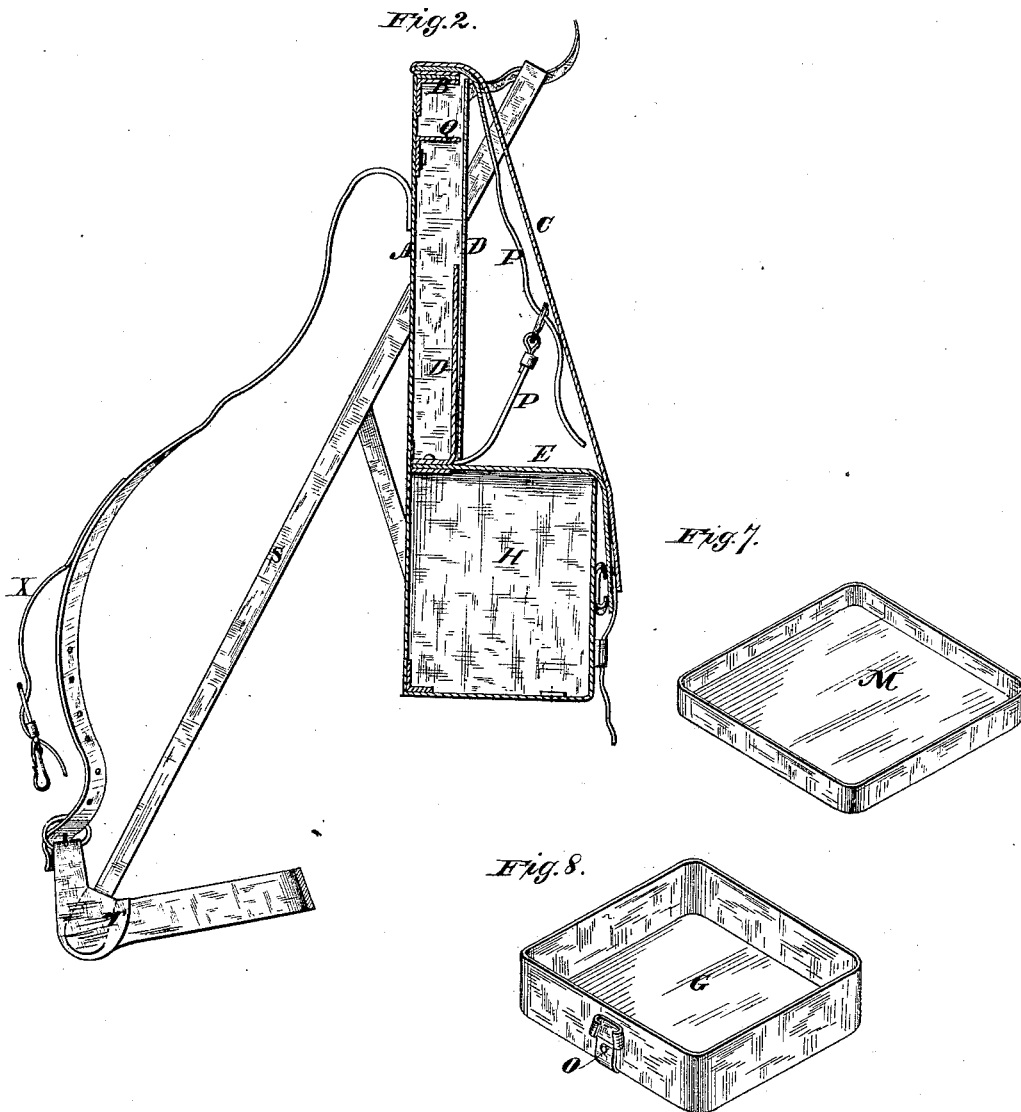
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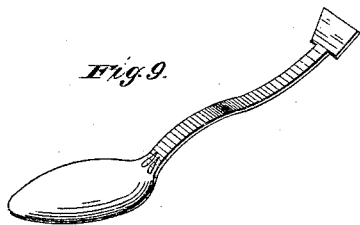
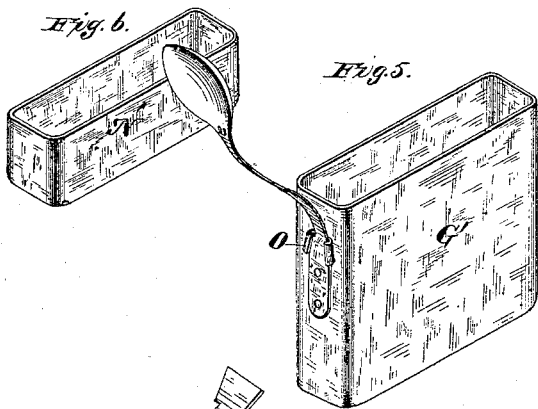
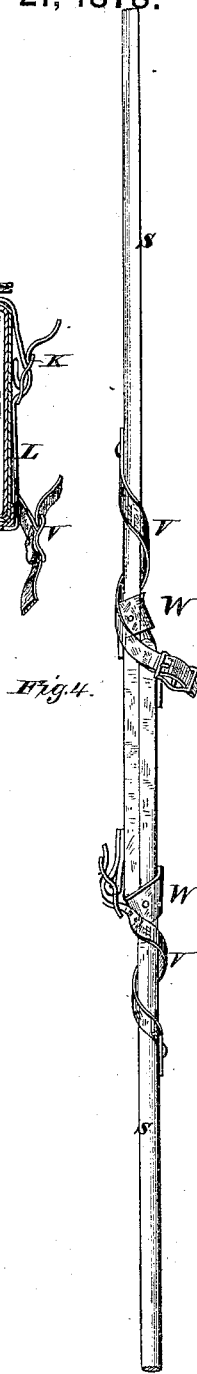
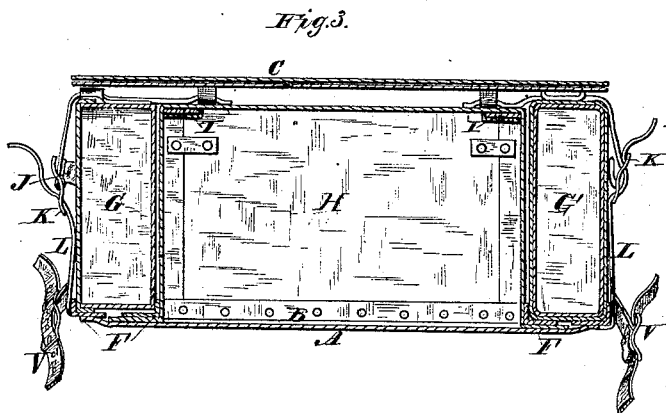
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UNITED STATES PATENT OFFICE.

HENRY C. MERRIAM, OF UNITED STATES ARMY.

IMPROVEMENT IN KNAPSACKS.

Specification forming part of Letters Patent No. 204,066, dated May 21, 1878; application filed June 13, 1877.

To all whom it may concern:

Be it known that I, HENRY C. MERRIAM, of United States Army, have invented certain new and useful Improvements in Knapsacks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the invention. Fig. 2 is a vertical section; Fig. 3, a horizontal section taken through the haversack and provision-boxes. Fig. 4 represents the side braces S joined together to form a shelter-tent pole. Figs. 5, 6, 7, and 8 represent views of the provision-boxes; and Fig. 9 is a perspective view of the combined spoon and handle.

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

My invention has for its object to improve the construction of knapsacks, whereby they are more completely adapted to all the requirements of the army in respect to the comfort and convenience of the wearer.

To this end the invention consists, first, in the combination of a haversack with a knapsack, for the purpose of reducing the number of separate equipments, lessening the weight to be carried, and at the same time disposing it more uniformly, and leaving the body of the soldier freer and less hampered by straps and other fastenings.

It also consists in constructing the frame of the knapsack of sheet metal, made angular transversely, for the purpose of lightening and strengthening the knapsack, and to afford the necessary connections for the haversack, the knapsack-supporters, and connecting-straps.

It also consists in the construction of the haversack attachment and its equipage.

It also consists in improving the construction and method of using the knapsack-supporters for which Letters Patent No. 178,545 were granted to me June 13, 1876.

It also consists in the adaptation of the knapsack-supporters to be used for shelter-tent poles, as I will presently describe.

In the accompanying drawings, A is the knapsack, made of leather, duck, or other proper material, and provided with a sheet-

metal frame, B, made angular transversely, and arranged on that side of the knapsack next the back of the wearer. The covering is riveted or otherwise fastened to the frame in any secure manner, and forms the outer covering-flap C, clothing-flaps D D D, and haversack-flaps E. The lower end of the knapsack-frame is extended to form the haversack-frame, and at each end thereof is provided with additional sheet-metal pieces F, by which rectangular recesses are made to receive the combined ration-cases and cooking utensils G G'. Between these two rectangular recesses is formed the ration-pocket H of the haversack, of like or similar material as the knapsack. Its inner side and bottom edges are fastened to the metal frame-work; but its outer vertical angle is stiffened by metal strips I, or other suitable stiffening-pieces. The ration-cases G G' are made deep enough to fit snugly within the recesses of the frame, and of such size and exterior shape as to conform to the ends of the ration-pocket, so that when they are in their places they shall form a uniform continuation of such pocket at each end, extending to the sides of the main frame, as shown. The cases are held in place and the pocket properly stretched by a bifurcated or double strap, J, the ends of which are fastened respectively to the stiffening-strips I and the bottom of the pocket, as shown. Each double strap is drawn back across the corner of its case, so that the angle of the latter shall project between the bifurcations—that is to say, one part of the strap passes under the bottom and the other across the back edge of the case—and is fastened by the buckle K to a strap, L, secured to the side of the main frame, as shown. To release either case it is only necessary to unbuckle and loosen these connections, as will be readily understood.

The protecting-flap E covers the cases G G' as well as the pocket of the haversack.

While the ration-cases are the same in form, they are made to open in a different manner, one, G, having a large shallow side cover, M, which, when removed, forms a plate, and the other, G', having a somewhat deeper end cover, N, which constitutes a drinking-cup when removed. The case G, I regard as best adapted to carry rations of meat; and the

case G' packages of sugar and coffee or tea; but this is merely a matter of choice.

O O are dovetailed loops secured to the edges of each case to receive the handle of spoon, made with a corresponding dovetail, as shown.

When the spoon is applied to the case G, it forms a handle to the latter, which can then be used as a frying-pan, and when applied to the case G' the latter can be used as a coffee-pot with a handle, as shown in Fig. 5; but I am aware that it is not new, broadly, to use a spoon for such purposes.

The usefulness of the spoon is not impaired by this arrangement.

By this means the utensils are adapted to a variety of uses, and the weight of the equipage is considerably decreased. By combining the haversack and knapsack in the manner described, the soldier's rations are kept clean and free from contact with his clothing, while the movements of the arms are not obstructed as they are when the clumsy and dirty regulation haversack is used, slung under the arm in the ordinary manner.

The interior of the knapsack is formed with a metal shelf, Q, near the top, upon which several packages of cartridges can be placed. Below the shelf the soldier's clothing is packed, and the whole covered by the flaps D D D. The blanket is then placed upon these flaps and secured by the straps P P, after which the whole is covered by the outer flap C, secured by suitable straps to the bottom of the haversack.

S S are the wooden side braces or supporters, the lower ends of which are stepped in leather sockets formed in the ends of the hip-strap T, and extending up to or toward the top of the knapsack, to which their upper ends are connected by the buckles and straps U U. Just above the center of the each brace it is further connected to the lower inner corner of the knapsack-frame by straps and buckles V V, the general position of the braces being inclined from the hips to a point more or less in rear of the wearer's shoulders, according to the conformation of the man, the straps and buckles U V admitting of such adjustment. By this means of constructing and applying the braces, the knapsack can be more completely fitted and adjusted to all sizes and forms of men to insure their comfort and convenience than with the use of the braces shown in my patent of June 13, 1876.

In addition to this, I design to use the braces for the poles of a shelter-tent, the two braces

carried by one soldier forming one pole and the two carried by his comrade forming the other pole; and, in order to fit two braces together for this purpose, they are provided with small leather loops W near the upper ends, which ends are beveled off on one side. When, therefore, the ends of two braces are overlapped and their beveled portions pushed firmly into the loops, they are securely wedged together to form a tent-pole, as shown in Fig. 4.

The straps riveted to the side braces readily turn in their rivets, so that absolute interchangeability is secured. In case of breaking one or both of the side braces on the wearer, the straps X, which support the cartridge-boxes, may be unlocked from such boxes, and temporarily turned upon their rivets and hooked into the buckles on the corner-straps, thereby providing a means for carrying the equipment until the injury can be repaired.

I claim as my invention—

1. A haversack and knapsack combined in one structure, the two being formed in the same frame and inseparably connected, substantially as described.
2. A metallic-framed knapsack, the frame of which is extended to form the frame of a haversack, substantially as described.
3. The sheet-metal frame of the knapsack and haversack, constructed with end recesses for the reception of combined ration-cases and cooking utensils, substantially as described.
4. The end provision-cases G G', in combination with the recesses in the metal frame and the intermediate ration-pocket H, arranged within the frame of the haversack, substantially as described, for the purpose specified.
5. The combination of the buckle and straps J K L with the pocket H, cases G G', and frame of the knapsack, substantially as described, for the purpose specified.
6. The side braces S, combined with the knapsack by means of the straps and buckles U V and the sockets in the hip-strap T, substantially as described.
7. The side braces S, combined with the knapsack and haversack by means of the adjustable straps U V, substantially as described.
8. The side braces adapted to be united to form a shelter-tent pole by means of the beveled ends and the leather loops, substantially as described.

HENRY C. MERRIAM.

Witnesses:

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HARRY KING.