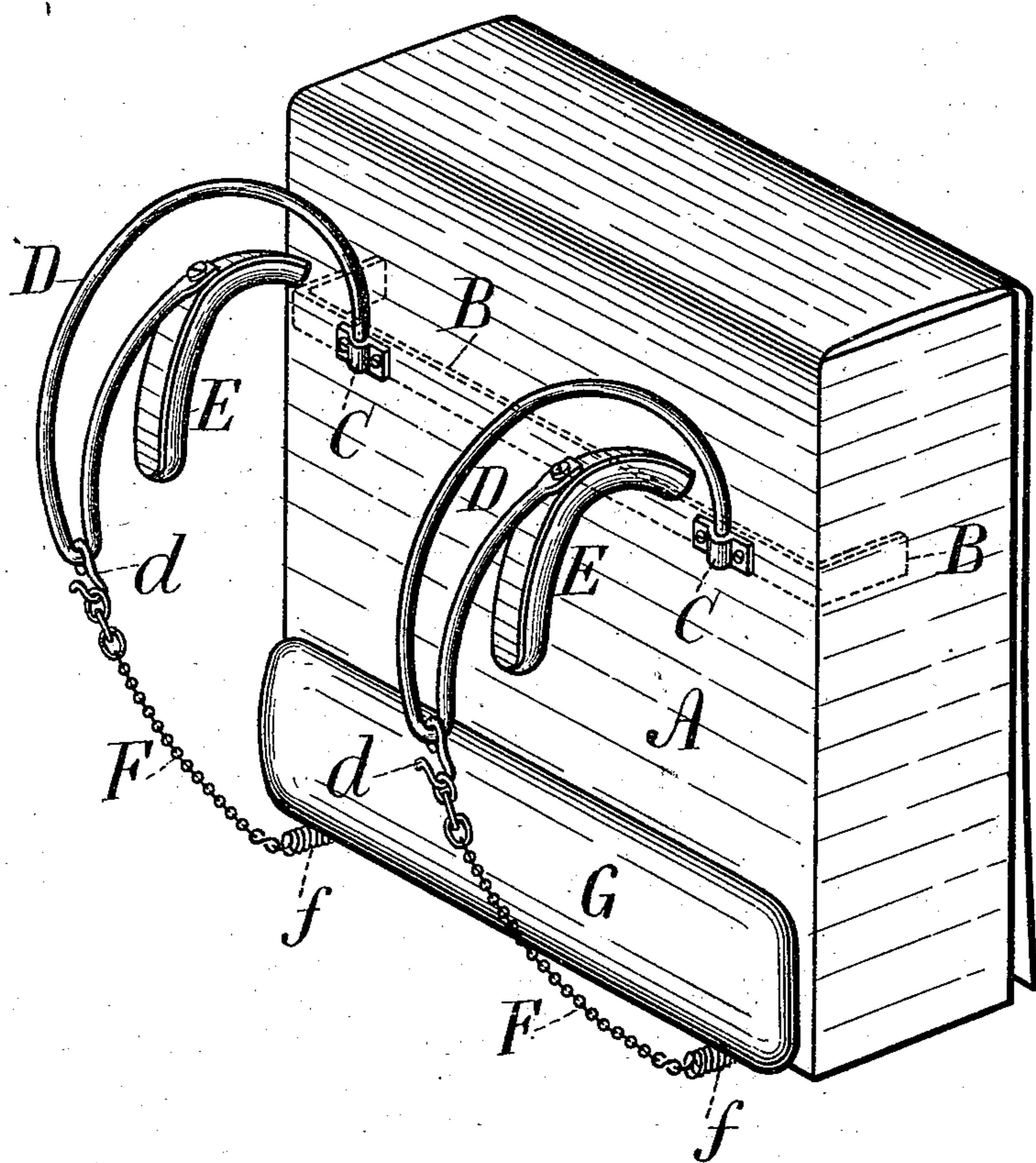


(No Model.)

F. ZBINDEN.
KNAPSACK.

No. 504,101.

Patented Aug. 29, 1893.



Witnesses:
J. Staib
Chas. H. Smith

Inventor:
Fritz Zbinden.
Per Lemuel W. Serrell
att'y

UNITED STATES PATENT OFFICE.

FRITZ ZBINDEN, OF LAUSANNE, SWITZERLAND.

KNAPSACK.

SPECIFICATION forming part of Letters Patent No. 504,101, dated August 29, 1893.

Application filed December 16, 1892. Serial No. 455,363. (No model.) Patented in Switzerland May 30, 1892, No. 5,068.

To all whom it may concern:

Be it known that I, FRITZ ZBINDEN, a citizen of the Republic of Switzerland, residing at Lausanne, Switzerland, have invented an
5 Improvement in Suspending Devices for Knapsacks and Similar Articles, of which the following is a specification.

This invention was patented in Switzerland May 30, 1892, No. 5,068.

10 The invention consists of an improved device for suspending to the shoulders knapsacks, tourists' sacks and the like, which greatly facilitates the bearing of such objects and lessens the fatigue resulting therefrom.

15 In cases where the shoulder pads for supporting the weight of the knapsack or similar article have received loops or springs connected directly at their back ends to the knapsack and extending forward over the
20 shoulders, the tendency of the weight, especially in walking, is to cause the shoulder pads to slip backwardly over the shoulders.

In my present improvement I make use of suspending devices each of which is formed
25 of a spring rod doubled upon itself and curved, one end of the spring rod extending backwardly and downwardly and being permanently connected with the knapsack and the other end being returned under the arch
30 of the main spring and receiving at its end a shoulder pad. The consequence of this construction is that the weight of the knapsack tends to press the shoulder pad against the front of the shoulder and hold the knapsack
35 with greater firmness in proportion to the weight, and the length of the spring that is obtained by each folded curved spring arm is such that there is considerable yield in the attaching springs, so as to relieve the shoulders from concussion and strain in carrying
40 the knapsack on the back.

In the accompanying drawing the said device is shown as applied to a knapsack which is represented in a perspective view.

45 A is the knapsack within which is a metallic traverse or bar B to which are screwed or riveted two brackets C each carrying a spring shaped arm D preferably of steel. To each of these arms D is affixed a shoulder piece
50 E. The arms D are of spring rods or bars folded upon themselves and curved as shown in the drawing for obtaining a large degree

of elasticity, and the shoulder pieces E are of suitable configuration for the purpose of not injuring the shoulder, and they are pro- 55
vided with suitable cushions of horse-hair or pneumatic tubes of india rubber to rest easily against the shoulders. In some cases the shoulder pieces E will be connected to the spring shaped arms D by means of screws in 60
slotted holes or similar devices may be used for adjustably connecting the said shoulder pieces E upon the said arms D. Moreover, the arms D may be advantageously connected in some cases to the knapsack or object to 65
be suspended by means of a disconnectable device, such for instance as the well known bayonet connection.

The knapsack A may be carried by means of the above described device alone, but it 70
will generally be advantageous to provide the same with safety chains or straps F, which are suitably connected to the sack A by means of springs *f* and to the arms D by means of suitable hooks *d*. It will also be 75
advantageous to provide the knapsack A or the like with a pneumatic cushion G intended to bear against the back.

In consequence of each spring arm D being folded upon itself and curved and one 80
end of each arm connected with the knapsack and the other end carrying the shoulder piece, the folds of the spring arms come in front of the shoulders and any weight that tends to bend the spring arms acts to press 85
the shoulder pieces against the front of the shoulders, instead of allowing them to slip over the top of the shoulders. Hence this attachment is very easy and reliable, especially for soldiers or others marching with a heavy 90
weight of knapsack.

I claim as my invention—

1. A support for knapsacks and similar articles, consisting of two spring arms folded upon themselves and curved in form and connected at their rear ends to the knapsack or 95
similar article, and having at their other ends the curved shoulder pieces for sustaining the weight of the knapsack upon the shoulders, substantially as set forth. 100

2. A support for knapsacks and similar articles, consisting of two spring arms folded upon themselves and curved in form and connected at their rear ends to the knapsack or

similar article, and having at their other ends
the curved shoulder pieces for sustaining the
weight of the knapsack upon the shoulders,
and chains or straps extending from the folds
5 of the springs to the lower portion of the
knapsack, substantially as set forth.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

FRITZ ZBINDEN.

Witnesses:

E. IMER-SCHREIDER,
J. BERTILLIOT.