D. M. NEFF.

FOLDING STOOL.

APPLICATION FILED APR. 27, 1914.

1,215,689.

Patented Feb. 13, 1917.

2 SHEETS—SHEET 1.

Fig. 1

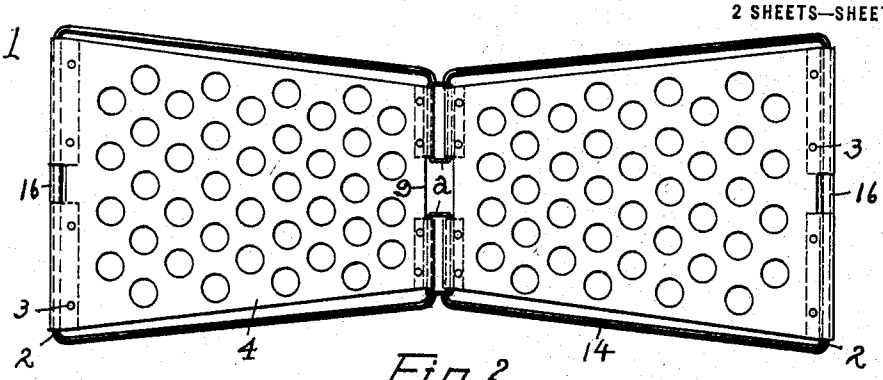


Fig. 2

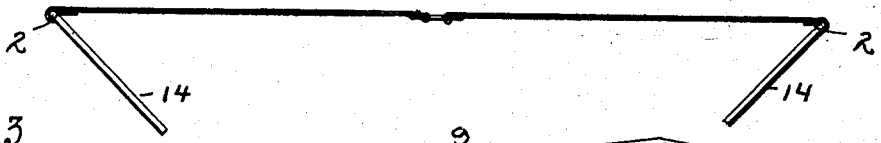


Fig. 3

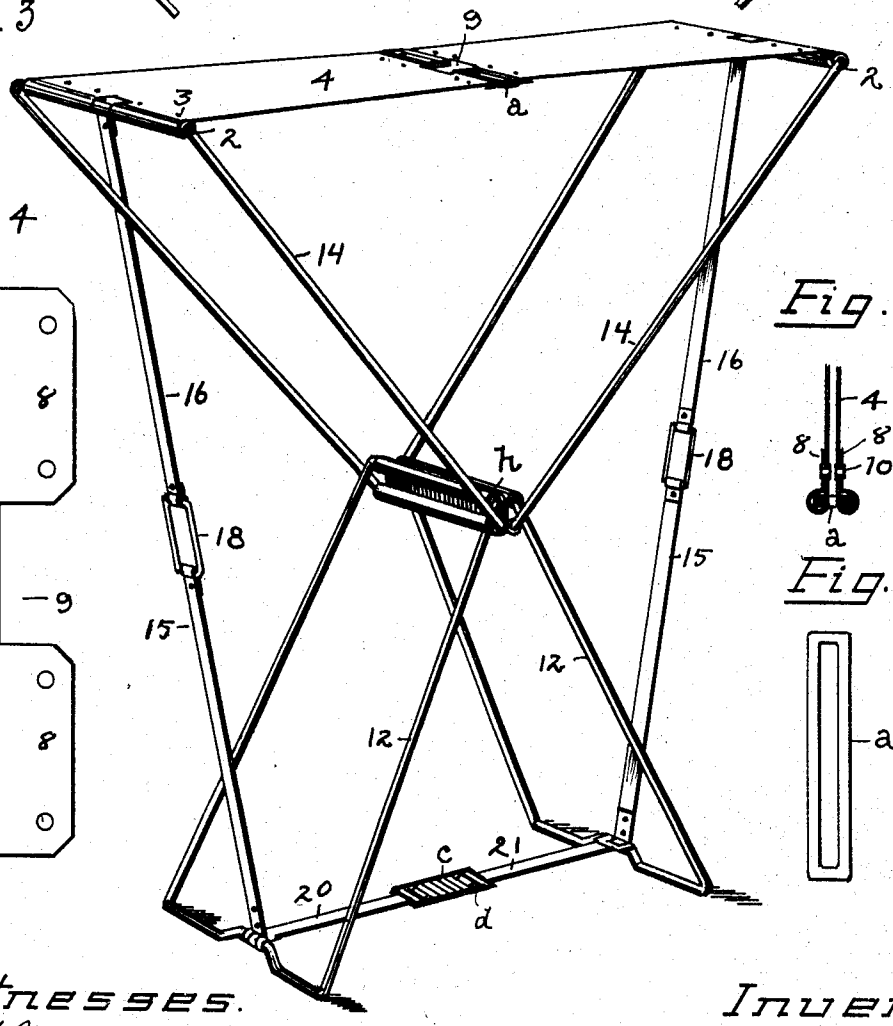


Fig. 4

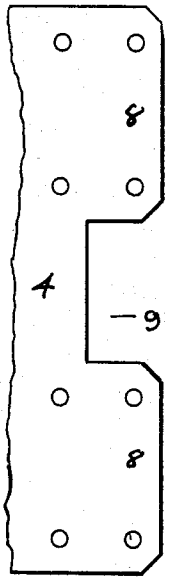


Fig. 5

Fig. 6

Witnesses.

D. M. Moser.

V. L. Moser.

Inventor

Douglas M. Neff

By Fisher & Moser

Atty.

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2 SHEETS—SHEET 2.

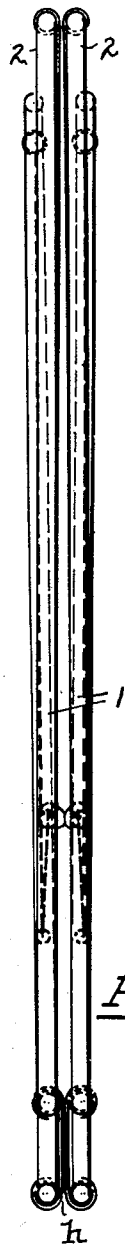


Fig. 8.

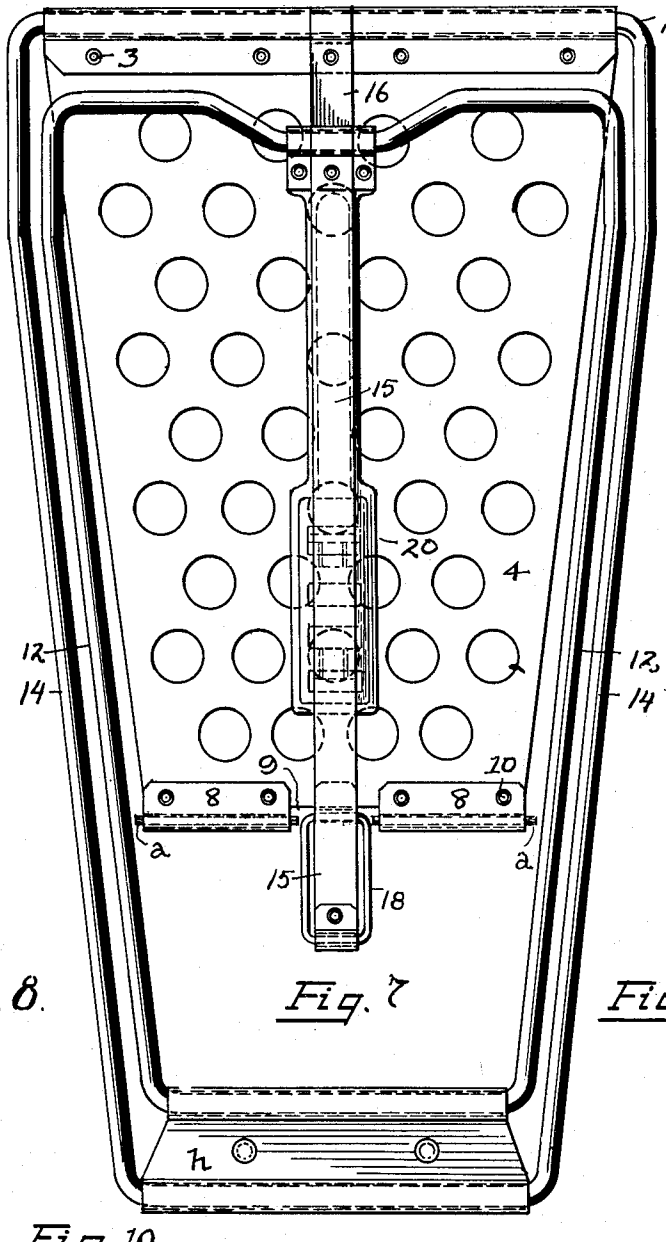


Fig. 7.

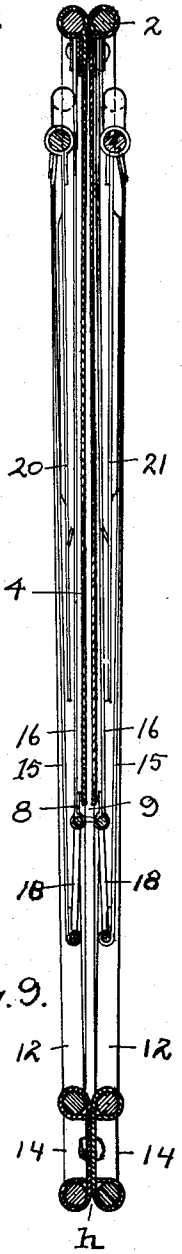


Fig. 9.

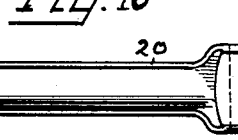


Fig. 10

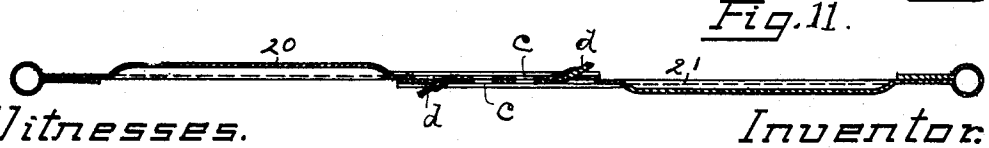


Fig. 11.

Witnesses.

D. M. Moser.

G. L. Moser

Inventor.

Douglas M. Neff

By Fisher & Moser

Atty.

UNITED STATES PATENT OFFICE.

DOUGLAS M. NEFF, OF EAST CLEVELAND, OHIO, ASSIGNOR TO THE NEFF COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

FOLDING STOOL.

1,215,689. Specification of Letters Patent. **Patented Feb. 13, 1917.**

Application filed April 27, 1914. Serial No. 834,673.

To all whom it may concern:

Be it known that I, DOUGLAS M. NEFF, citizen of the Dominion of Canada, residing at East Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Folding Stools, of which the following is a specification.

This invention appertains to an improvement in folding stools, and the invention consists in the construction and combination of parts, substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the stool showing a perforated seat, and Fig. 2 is an edge elevation thereof and fragments of the supporting frame. Fig. 3 is a perspective view of the stool with an imperforate seat. Fig. 4 is a section, enlarged, of one end of a seat blank. Fig. 5 is a sectional elevation of the seat showing the hinge at its middle and the seat as folded, and Fig. 6 shows a side and an edge elevation respectively of one of the hinge links in the side link connections. Fig. 7, Sheet 2, shows the stool folded, and Fig. 8 is an edge view of Fig. 7. Fig. 9 is a sectional elevation of Fig. 7. Fig. 10 is a plan view of the two bottom interlocking links, and Fig. 11 is a longitudinal sectional view thereof.

The invention as thus shown is an improvement upon the stool illustrated and claimed in Letters Patent 1,134,057, of March 30, 1915, Douglas M. Neff, inventor, except the seat which, in the said patent is represented as made of heavy canvas or duck or like material, whereas in the present application the seat is made of sheet metal.

Several objections were found to exist in the seat of the former construction of stool which were regarded as serious, particularly by the users and which militated more or less against the popular introduction of the stool, such, for example, as the woven fabric out of which the seat was made because it would fray and weaken along the edges and would absorb moisture and when wet was slow to dry, and if occupied while wet or moist would stretch and sag, and become uncomfortable on that account. Furthermore, an absorbent seat could not be easily cleaned or conveniently dusted with a handkerchief and was liable to get dingy in appearance by reason of use. Altogether such a seat was found to be unsanitary and undesirable in a stool which otherwise was capable of long service. Hence I conceived the improvement herein which consists in a sheet metal seat 4 which is made of two sections hinged together in the middle of the seat and having the outer ends lapped back upon themselves over the top cross portion of frame 2 and riveted at 3 but loose on said cross portions so as to turn freely thereon for folding.

The said hinge is formed by means of connecting links *a*, Figs. 5 and 6, which have parallel sides and are used in pairs and have a length approximately one-third of the width of the seat each at its center, and in the present showing leaving a blank space or opening at the middle of the seat as seen at 9, which enables the side links to be folded snugly within the frame as hereinafter described. By means of a plurality of comparatively short links *a* I avoid the danger of stretching or spreading the hinges under a load, as would be the tendency if a single link were used which extended entirely across the seat. Such spreading of the link at the middle would also endanger the edges of the seat where the greater strain in that case would naturally occur. As it is the said links are short and have cross portions on their ends so near together that linear tension on the seat cannot spread them at any point. Thus the seat is always held exactly as it is assembled in the factory and it is stretched taut and even across its entire width when opened to be occupied, as in Fig. 3. A very thin sheet steel is preferably used for the seat, and to lighten it in point of weight it may be perforated as in Fig. 1. The ears 8 are bent around the sides of the links *a* and secured in their overlapped portions with eyelet rivets 10 so as to provide perfectly smooth outer surfaces.

It will also be observed that by the use of sheet metal can narrow the seat at its middle with a taper along the edges of both sections toward the middle so as to fold the seat bodily within the sides of the leg members 12 of the frame, Fig. 7. These members in turn fold one against or upon the other within the seat members 14 of the frame, which are widest at their top and

taper inward to their hinge *h*, and the connecting links 15 and 16 also fold within said frame. The said links are of metal stretched taut when the stool is open and resist the tendency of the tops of the seat frame to pull together under weight upon the seat notwithstanding the outward inclinations of the seat supporting members or sections 14, and said links fold inward against the seat from opposite sides as seen in Fig. 9 when folding of the stool occurs. In this folding the importance of the connecting links 18 is especially emphasized, because without such links or their equivalent the two members 15 and 16 could not be folded. The said members are of the same length, but owing to the fact of the greater length of the seat sections than the leg sections of the frame as seen in Fig. 7 the said hinge members could not fold without the links 18 to accommodate the difference in length and the relative positions of the cross portions of said sections. And since compactness of the folding stool is important to make a hip pocket or coat pocket article of it, and the links 15 and 16 are necessarily lapped over the connection 18 with loop formation the increase in thickness is accommodated by the recess 9 in the seat which enables the said links to be folded close together and well within the sides of the frame, Figs. 8 and 9. Otherwise without said recess, the links would come against the hinges of the seat and be thrust outside the plane of the folded frame.

At the bottom the links 20 and 21 connect the leg sections and are adapted to be interlocked to give fixedness and rigidity to the stool when unfolded for use. To this end the said links are hinged to middle of the lower portions of the leg sections and are struck up from sheet metal and provided each with a series of transverse slots *c* in their overlapped portions and lips or lugs *d* adapted to engage in the slots of the opposite member respectively. This affords a double interlocked connection between said links and the series of slots enables the leg members to be drawn together more or less tightly according to the particular slot engaged.

What I claim is:

1. A folding stool having a sheet metal seat formed in sections hinged together in the middle of the seat and said seat having a recess in its middle on the line of its hinge and links at its sides adapted to fold across said recess from opposite sides.

2. A folding stool having a sheet metal seat hinged at its middle and provided with a recess at its center, in combination with links at the side of said stool having a middle connecting member and adapted to fold and to lie across said recess from opposite sides within the plane of folded members of the stool.

In testimony whereof I affix my signature in presence of two witnesses.

DOUGLAS M. NEFF.

Witnesses:
R. B. MOSER,
F. J. FREER.