

G. A. FAIK.
POLE FOR FOLDABLE LADDER AND STRETCHER STRUCTURES.
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Patented Apr. 19, 1921.
2 SHEETS—SHEET 1.

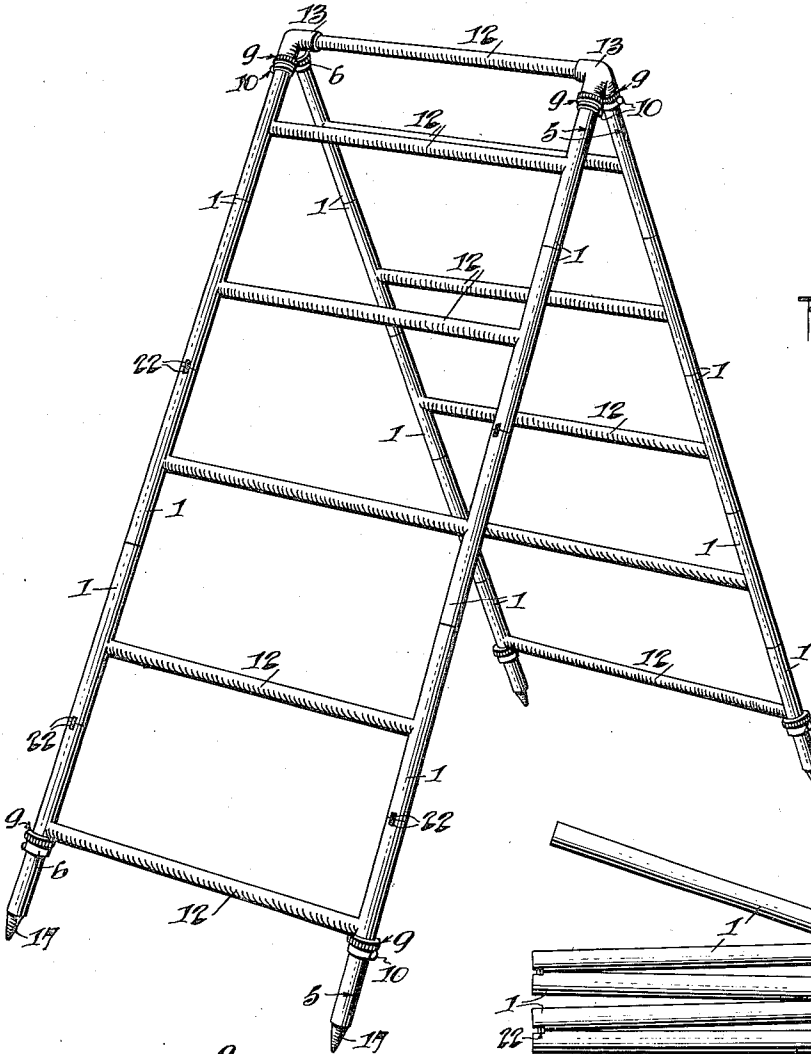


Fig. 1.

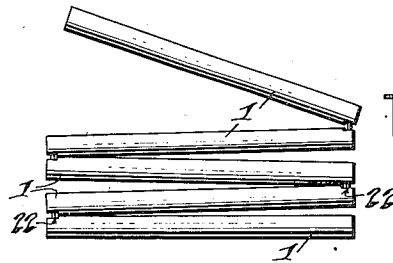


Fig. 4.

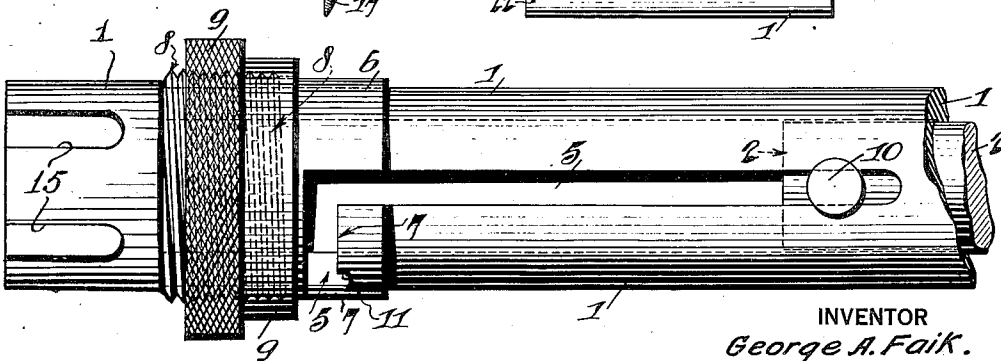


Fig. 5.

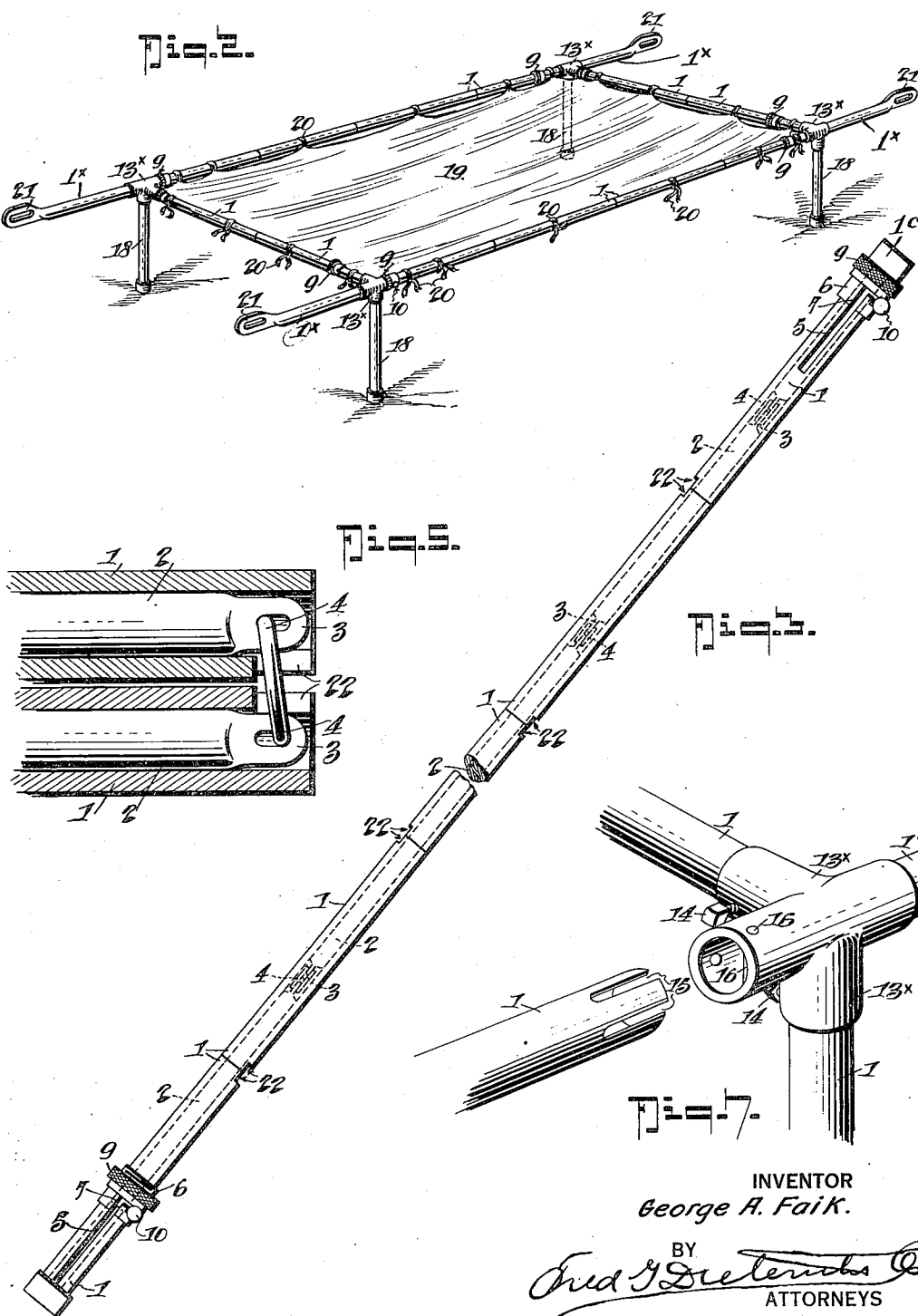
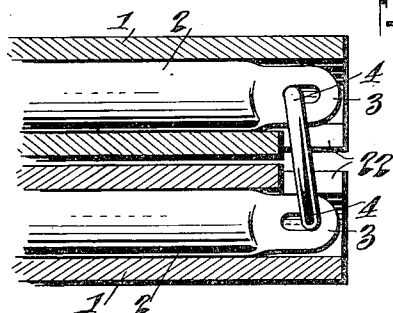
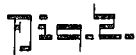
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POLE FOR FOLDABLE LADDER AND STRETCHER STRUCTURES.

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2 SHEETS--SHEET 2.



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POLE FOR FOLDABLE LADDER AND STRETCHER STRUCTURES.

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To all whom it may concern:

Be it known that I, GEORGE A. FAIK, (a former subject of Hungary, who has applied for citizenship of the United States,) residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Poles for Foldable Ladder and Stretcher Structures, of which the following is a specification.

My invention has for its object to provide a pole or rod structure for use in ladders, stretchers and other similar structures, whereby the same may be easily and conveniently "knocked down" for packing and transportation purposes; another object is to provide a pole structure which will be strong and yet light and which will effectively serve its intended purposes.

In general, the invention resides in providing a ladder or stretcher whose poles are composed of several disconnected sections of tubing with inner connecting rod sections, which are adapted, when in one position, to bridge the opposing ends of adjacent tube sections, there being means provided to hold and lock the rod sections in the extended position with their joints intermediate the ends of the tube sections and at the same time hold the tube sections in end to end contact, thereby providing, as it were, a rigid rod or pole.

The invention further resides in those novel features of construction, combination and arrangement of parts, all of which will be first fully described, then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:

Figure 1 is a perspective view of a ladder embodying the invention.

Fig. 2 is a perspective view of a stretcher embodying the invention.

Fig. 3 is an enlarged detail view, parts being broken away, showing a pole embodying the invention, the parts being in the operative and extended position, the ends of the pole being capped.

Fig. 4 is a view of a pole folded up.

Fig. 5 is an enlarged detail section showing the jointed ends of the two pole sections in the folded position.

Fig. 6 is an enlarged detail view of a part of one of the stretcher poles, showing the holding and locking devices.

Fig. 7 is a detail perspective view of one

of the joints between the poles and one of the unions used where several poles come together in the stretcher construction.

In the drawings in which like numerals of reference indicate like parts in all of the figures, the pole which constitutes the essential part of the present invention is composed of a plurality of suitable (preferably uniform) lengths of tubing 1 and a corresponding number of rod lengths 2 which have a sliding fit in the tube sections 1 and are provided with ears 3, the adjacent rod ends being connected together hingedly by links 4.

The rod lengths 2 (except those at one end of the pole) are preferably of substantially the same lengths as the corresponding tube sections 1.

The end tube sections 1 have bayonet slots 5 and are provided with ferrules 6 which have bayonet slots 7 to register with the slots 5 of the tube sections, the ferrules 6 having threads 8 on which the locking ends 9 are located.

In practice, the slots 5 and 7, the rod lengths 2, links 4, and the tube lengths 1 are so proportioned with regard to one another that, when the studs 10 on the end rod sections 2 are in the seats 11 of the slots 5, 7, the joints will lie about midway the ends of the tubes 1 and the said tube ends will lie in contact with one another, the rod lengths 2 and links 4 being pulled taut to hold the tube sections in such position, thereby forming a rigid rod or pole structure.

When the rod or pole structure is to be in ladder construction (see Fig. 1), the rungs 12 of the ladder may be single tube or rod sections made fast to the tube sections 1 by brazing, welding or in any other suitable way.

The top rung and the top ends of the poles are set in socket members 13 in which they are suitably secured.

The lowermost tube sections 1 may be fitted with spike members 17 to hold the legs of the ladder against spreading.

When the rod or pole structure is to be used in stretchers (see Fig. 2), the cross poles may be made of tube sections 1 and rod lengths 2 as well as the longitudinal poles, suitable socket members 13* being provided where the cross poles join the longitudinal poles, the legs 18 being short rod or tube lengths set into the socket mem-

ber and preferably removably secured by set screws or otherwise. Where the poles 1 enter the sockets 13* (see Fig. 7), they are provided with slots 15 to engage with the pins 16, the parts being held in position by suitably located set screws 14.

The cover 19 of the stretcher is tied to the pole by tie cords or tapes 20. Handles 1* with loops 21 may be provided through which shoulder straps (not shown) may be passed for aiding in carrying the stretcher.

In order that the pole member may be folded up, the tube sections 1 are slotted, as at 22, to receive the links 4 (see Fig. 5). In Fig. 3, I have shown a pole provided with caps 1° over its ends, which pole may be used, *per se*, wherever a collapsible or foldable pole may be found useful, it being of substantially the same construction as the poles used in the stretcher of Fig. 2, the caps 1° fitting over the ends of the pole, when the pole is not used in the cot construction, so as to close the ends of the tubes.

While I have described and illustrated my invention as especially adapted to ladder and stretcher constructions, it is obvious that the same may be used wherever a rigid knock-down or foldable pole is desired.

It should, of course, be understood that the recesses 11 of the bayonet slots 5-7 are relatively shallow, so that the shank of the button 10 can be sprung into the same, thus keeping the rod 2 under substantially full tension.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction, the operation and the advantages of the invention will be clear to those skilled in the art.

What I claim is:

1. A pole comprising a series of tubes adapted to be held in endwise alinement with their ends in contact, rod sections slidably fitting within said tubes and linked together, and rod and tube interlocking devices whereby to hold the rod sections with their joints inclosed by the tube sections between the ends of the same and to hold the tube sections in end to end contact.

2. A pole comprising a series of tubes adapted to be held in endwise alinement

with their ends in contact, rod sections slidably fitting within said tubes and flexibly linked together, and rod and tube interlocking devices on the end tube sections whereby to hold the rod sections extended with their joints inclosed by the tube sections and to hold the tube sections in end to end contact.

3. A pole comprising a series of tubes adapted to be held in endwise alinement with their ends in contact, rod sections slidably fitting within said tubes, and hinged end to end, and means on the end tube and rod sections to hold the same together with the rod sections extended, and with the tube sections in end to end contact.

4. A pole comprising a series of tubes adapted to be held in endwise alinement with the ends in contact, rod sections slidably fitting within said tubes, and hinged end to end, and means on the end tube and rod sections to hold the same together with the rod sections extended and with the tube sections in end to end contact, and means co-operating with said holding means to lock the same.

5. A ladder comprising poles, each consisting of a series of tubes adapted to be held in endwise alinement with their ends in contact, rod sections slidably fitting within said tubes and linked together, rod and tube interlocking devices whereby to hold the rod sections with their joints inclosed between the ends of the tube sections and to hold the tube sections in end to end contact, rungs extending between corresponding tube sections of opposite poles, and socket members at the top of the ladder into which the poles are removably fitted, substantially as shown and described.

6. A structure comprising a plurality of pole or rod member units, each consisting of a series of tubes adapted to be held in endwise alinement with their ends in contact, rod sections slidably fitted within said tubes and hinged together, and rod and tube interlocking devices whereby to hold the rod sections with their joints inclosed between the ends of the tube sections and with the tube sections in end to end contact, and union members where the several rod member units join together, substantially as shown and described.

GEORGE ADAM FAIK.