

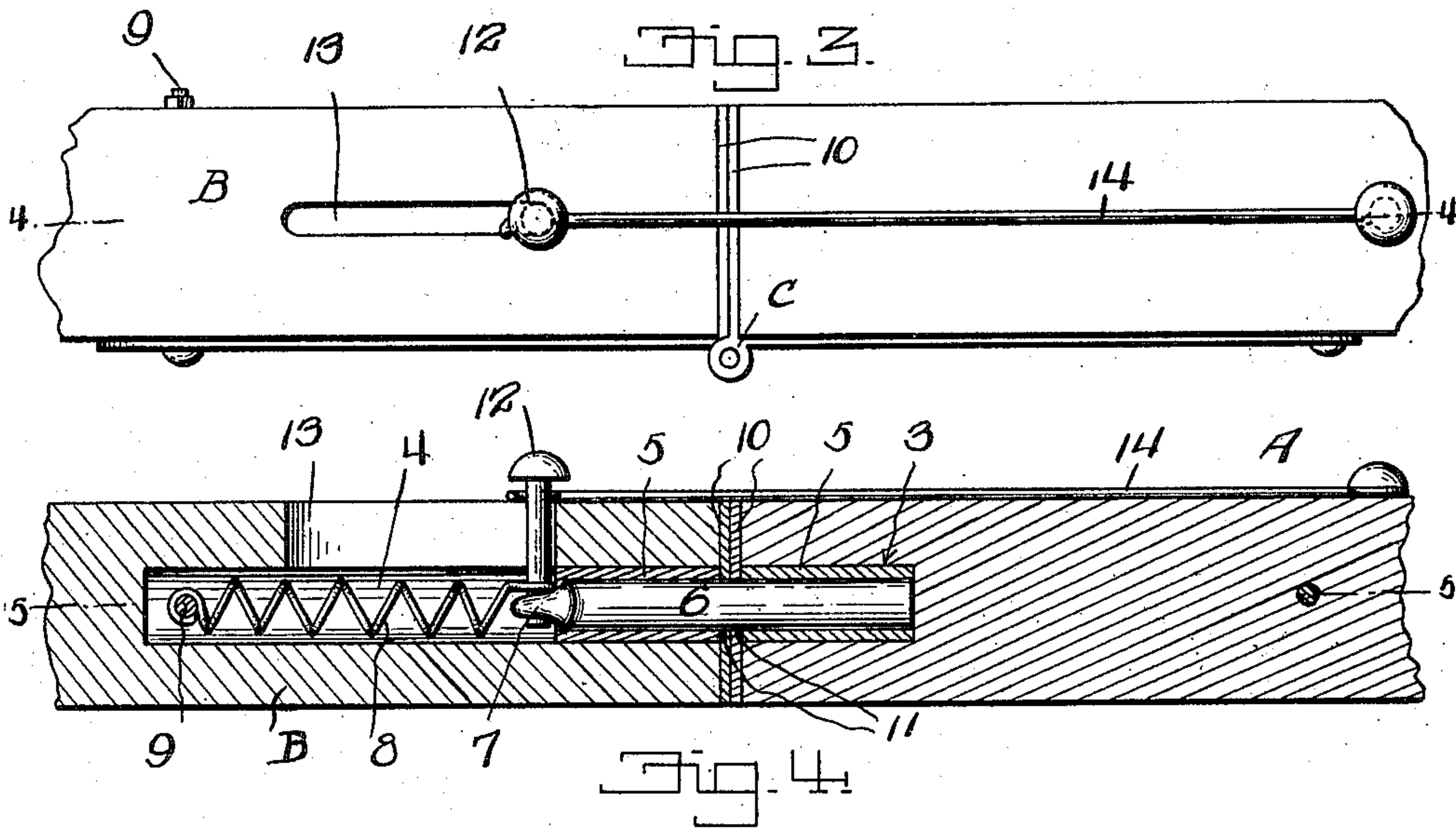
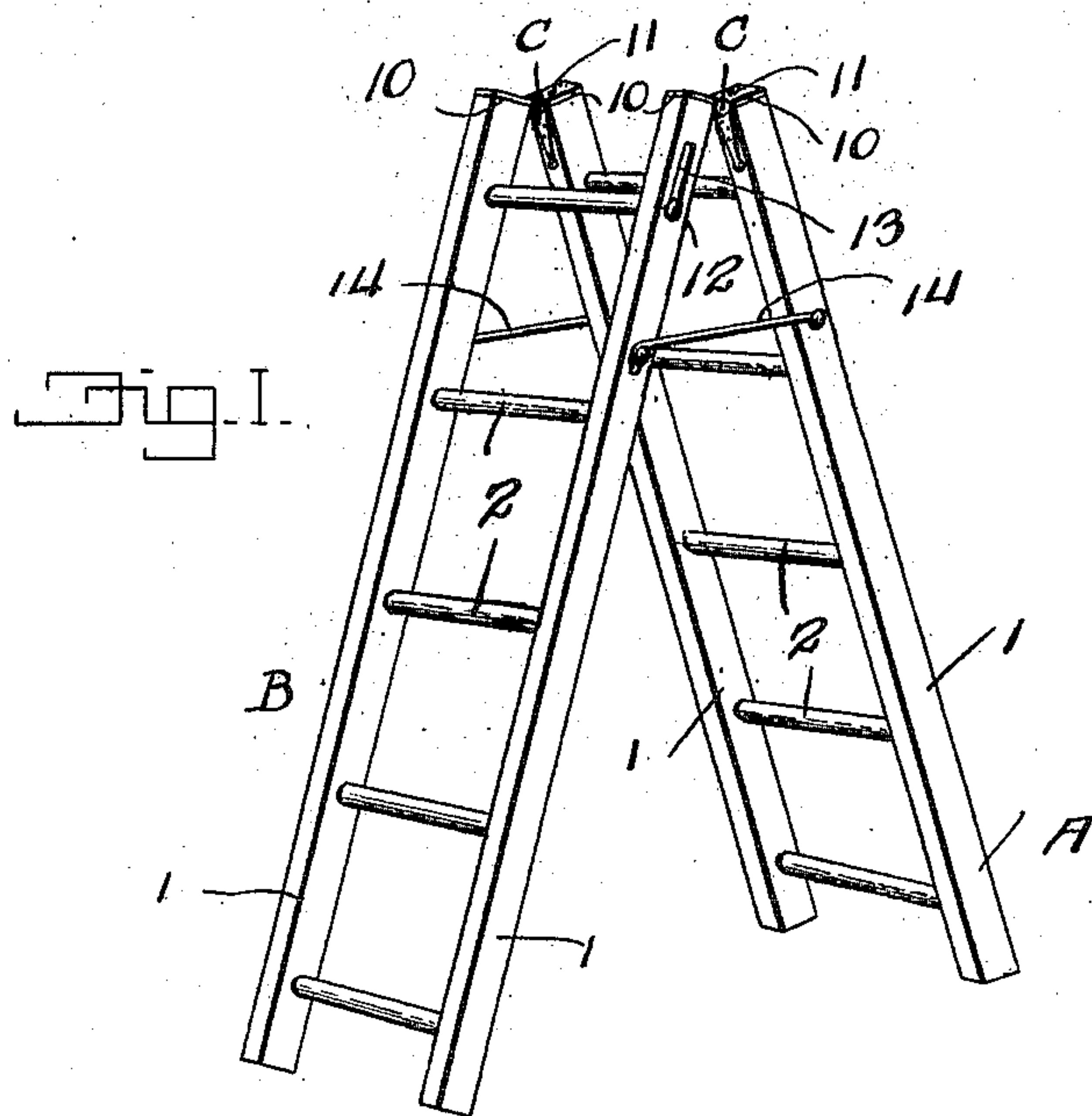
E. R. WALTERS.
FOLDING LADDER.

APPLICATION FILED MAY 7, 1910.

983,188.

Patented Jan. 31, 1911.

2 SHEETS—SHEET 1.



Inventor

Edmund R Walters

Witnesses

C. C. Richardson.
Wm. Bagger.

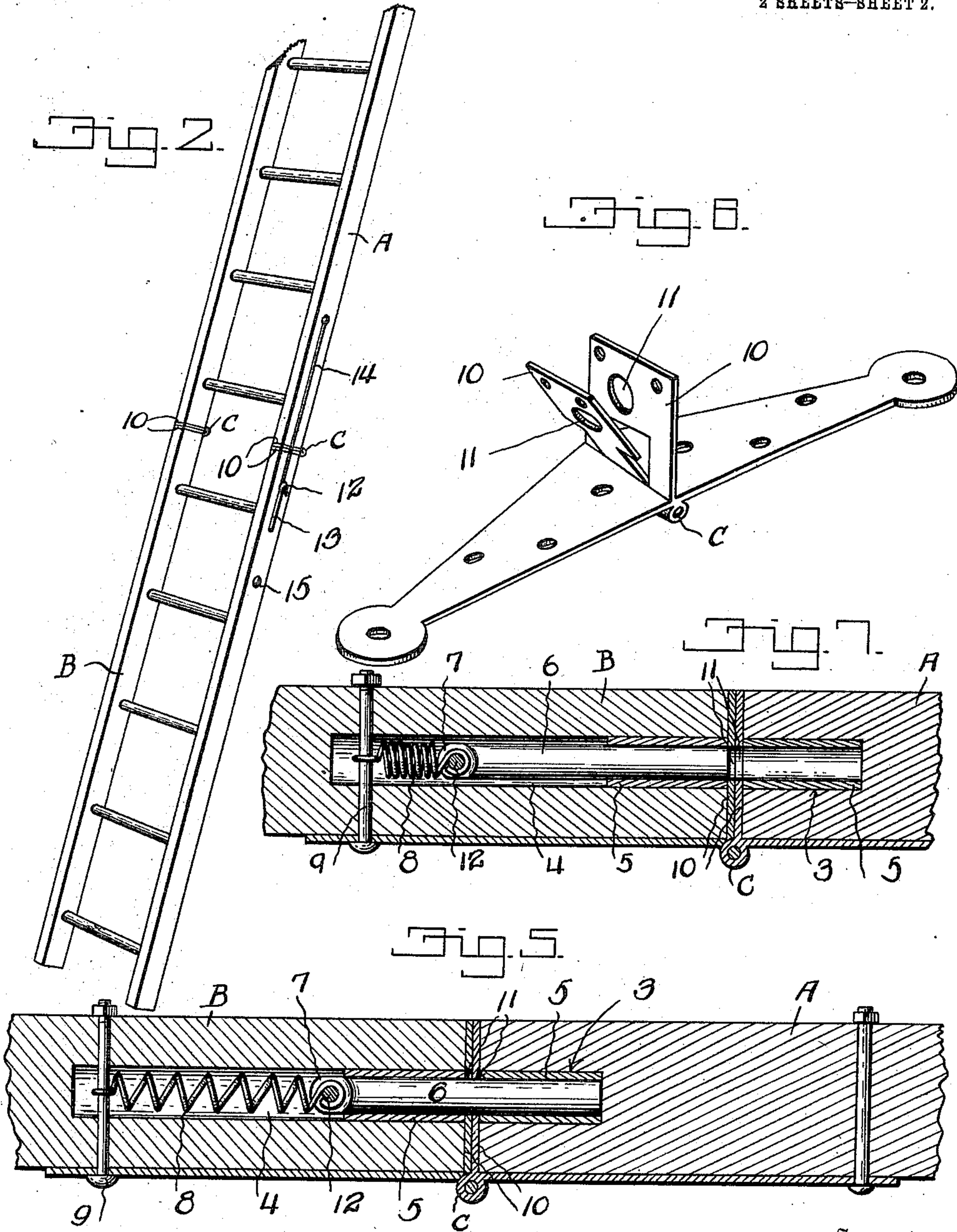
By Victor J. Evans
Attorney

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UNITED STATES PATENT OFFICE.

EDMUND R. WALTERS, OF REIDSVILLE, NORTH CAROLINA.

FOLDING LADDER.

983,188.

Specification of Letters Patent.

Patented Jan. 31, 1911.

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To all whom it may concern:

Be it known that I, EDMUND R. WALTERS, a citizen of the United States of America, residing at Reidsville, in the county of Rockingham and State of North Carolina, have invented new and useful Improvements in Folding Ladders, of which the following is a specification.

This invention relates to folding ladders of that class which are composed of two hingedly connected straight ladder sections which when disposed in endwise relation will form a single ladder of considerable length and which when partially folded will combine to form a convenient and useful step ladder.

The present invention has for its principal object to provide simple and improved means for hingedly connecting the ladder sections and for holding them securely in extended relation; and with these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings,—Figure 1 is a perspective view, showing the improved ladder in position for use as a step ladder. Fig. 2 is a perspective view, showing the ladder extended. Fig. 3 is a side elevation showing the abutting ends of two side members of the ladder sections in extended relation. Fig. 4 is a longitudinal sectional view taken on the line 4—4 in Fig. 3. Fig. 5 is a longitudinal sectional view taken on the line 5—5 in Fig. 4. Fig. 6 is a perspective view of a hinge member to be used in connection with the device. Fig. 7 is a longitudinal sectional view similar to Fig. 5, but showing the bolt member in retracted position.

The improved ladder is composed of two separate sections A and B which may be referred to as the upper and lower sections, respectively, this being the relative position generally assumed when the latter is used

extended as a straight ladder. These ladder sections may be formed by sawing in two a straight ladder of suitable length, and each of said sections is composed of side members 1, 1 connected by rungs 2, 2, it being, however, understood that said ladder sections may be constructed independently of each other.

The side members of the respective sections are provided at their meeting or abutting ends with recesses or sockets 3 and 4, said sockets being formed with an auger of suitable dimensions, and the sockets 3 in the ladder section A being approximately two inches in depth, while the sockets 4 in the ladder section B are approximately six inches in depth. Tubular metallic sleeves or ferrules 5 are fitted tightly in the respective sockets, said ferrules being each of a length of approximately two inches. A bolt 6 is fitted in each of the sockets or recesses 4, said bolt being slidable in the ferrule 5 in said recess, said bolt being provided at its lower or inner end with an eye 7 which is connected by a retracting spring 8 with a pin or bolt 9 extending transversely through the side member 1 of the ladder section. The side members 1, 1 of the ladder sections A and B are connected together by means of leaf hinges C which are secured upon the respective ladder sections by means including pins or bolts 9, one of which, as previously stated, is used for the attachment of one end of the retracting spring 8. The hinges C are equipped with leaves 10 abutting upon the ends of the side members 1, 1 of the ladder sections, said leaves being provided with apertures 11 for the passage of the bolt 6. The latter is provided with a handle member 12 extending through a slot 13 in the side of the socketed member wherein it is mounted. The side member 1 of the opposed ladder section A is equipped with a pivotally supported hook member 14 adapted to engage the handle member 12 of the bolt which projects through the slot 13.

As will be readily seen from the foregoing description, the ladder sections A and B when extended may be very firmly secured in extended relation by projecting the bolts 6 from the side members of the section B into the sockets of the side members of the section A where they may be secured by engagement with the pivoted hook member 14. When the device is to be utilized as a step ladder, the hook members 14 are disengaged

from the handle members of the bolts 6, which latter will thus be retracted into the sockets 4 by the action of the springs 8, thus permitting the ladder sections to be 5 folded to an angular position with relation to each other, enabling them to be utilized as a step ladder. When the device is thus used, the hook members 14 may be placed in engagement with suitable studs 15 10 upon the ladder section B.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The 15 improved folding ladder is very simple in construction. It is light, durable and capable of being easily transported from place to place and arranged for any of the various uses for which it is designed.

20 Having thus described the invention, what is claimed as new, is:—

1. In a device of the character described, a pair of hingedly connected ladder sections, the side members of which are provided at 25 their meeting ends with sockets, spring-retracted bolts fitted in the sockets of the side members of one ladder section, said bolts being provided with projecting handle members, and hook members connected with 30 the side members of the opposite ladder section for engagement with said handle members.

2. In a device of the character described,

ladder sections, the side members of which are provided with sockets at their meeting 35 ends, ferrules in said sockets, spring-retracted bolts fitted in the sockets and slidable in the ferrules of one ladder section, leaf hinges connecting the ladder sections, said leaf sections being secured upon the side members 40 of the ladder sections by means including bolts upon which the inner ends of the retracting springs are secured, and hook members pivotally connected with one ladder section to secure the spring-retracted bolts 45 in extended position.

3. In a device of the character described, ladder sections having side members provided with sockets at their meeting ends, leaf hinges connecting the sections and including leaves abutting upon the meeting 50 ends of the side members and having apertures alining with the sockets therein, spring-retracted bolts fitted in the sockets of the side members of one ladder section and 55 adapted to be projected through the apertures of the hinge leaves into the sockets of the side members of the opposite ladder section, and means for securing the spring-retracted bolts in extended position. 60

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

EDMUND R. WALTERS.

Witnesses:

W. B. MILLNER,
J. M. COBB.