

(No Model.)

A. DELFFS.  
EARTHEN FENCE.

No. 277,687.

Patented May 15, 1883.

Fig. 1

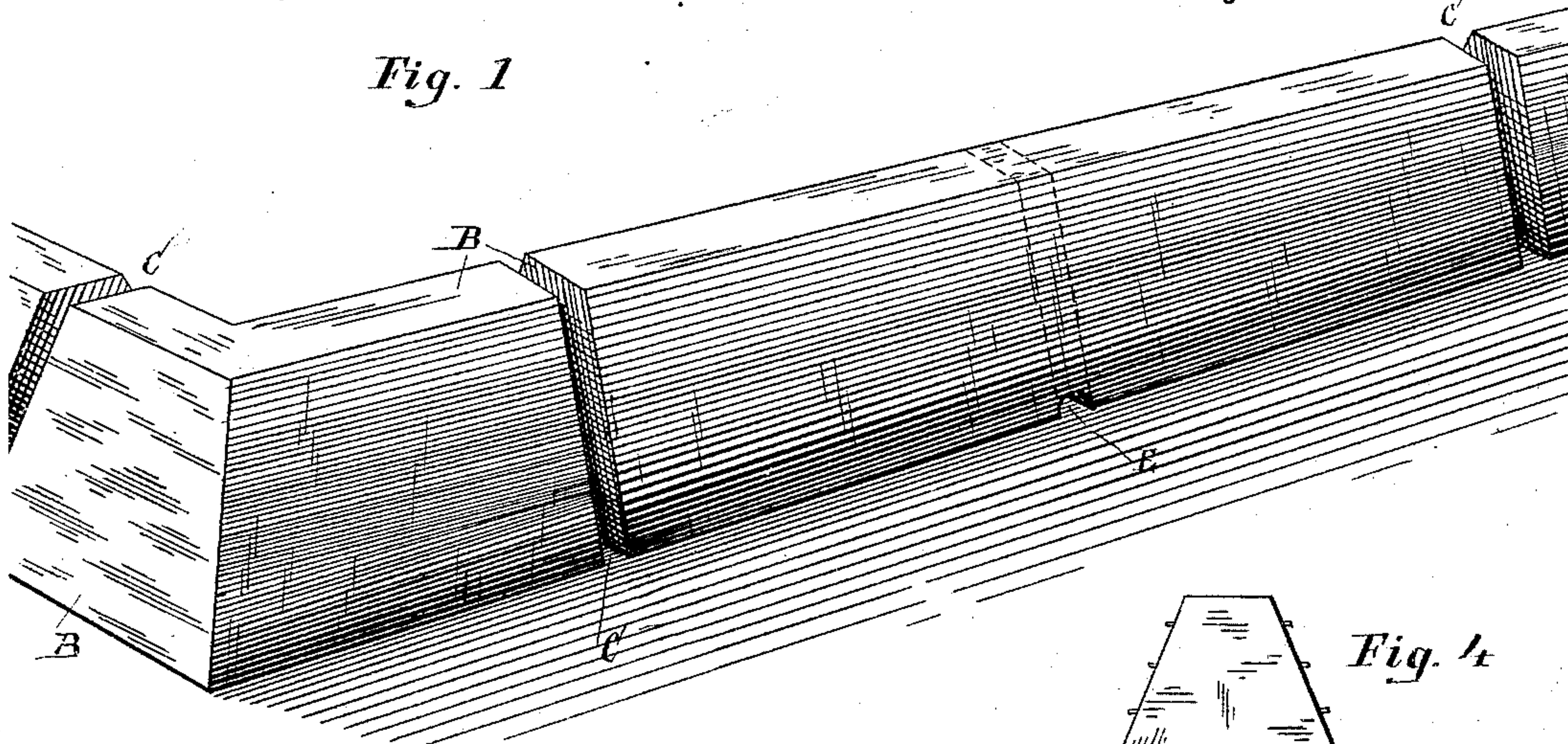


Fig. 4

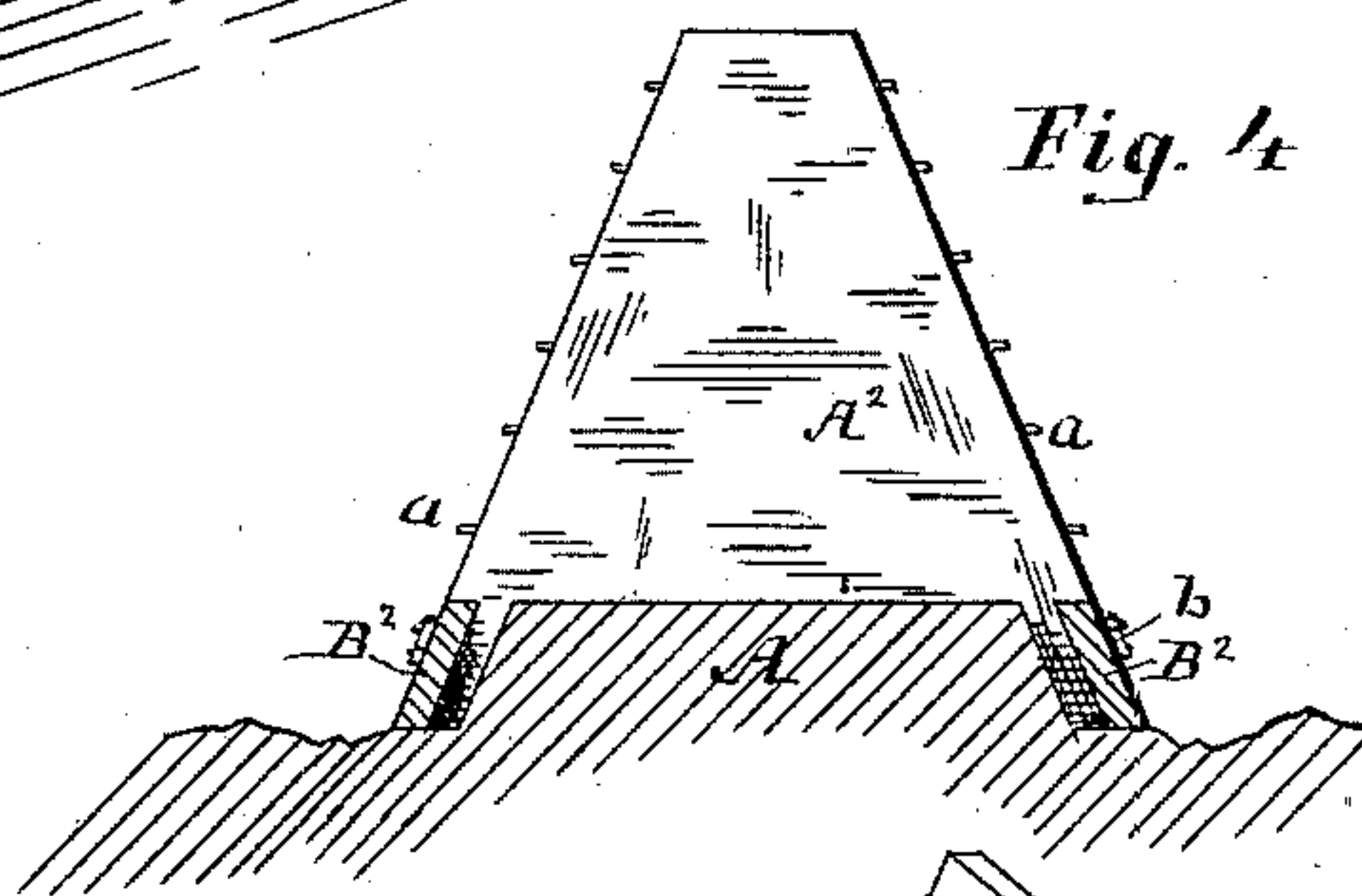


Fig. 2

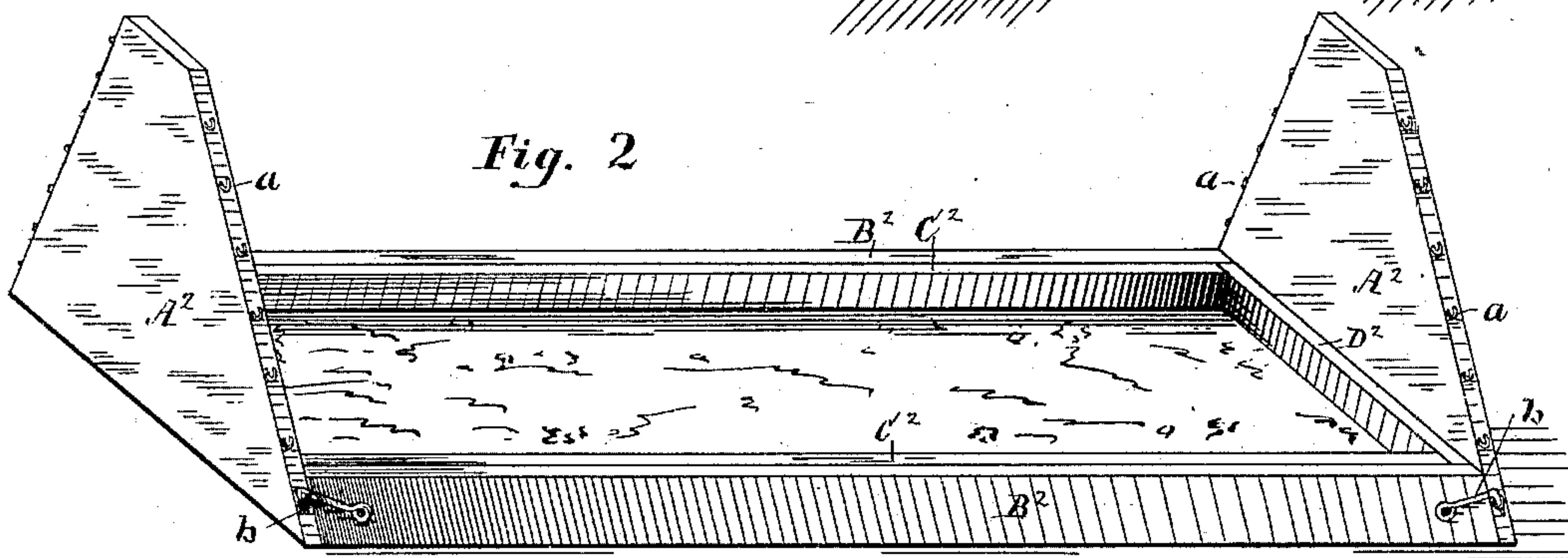
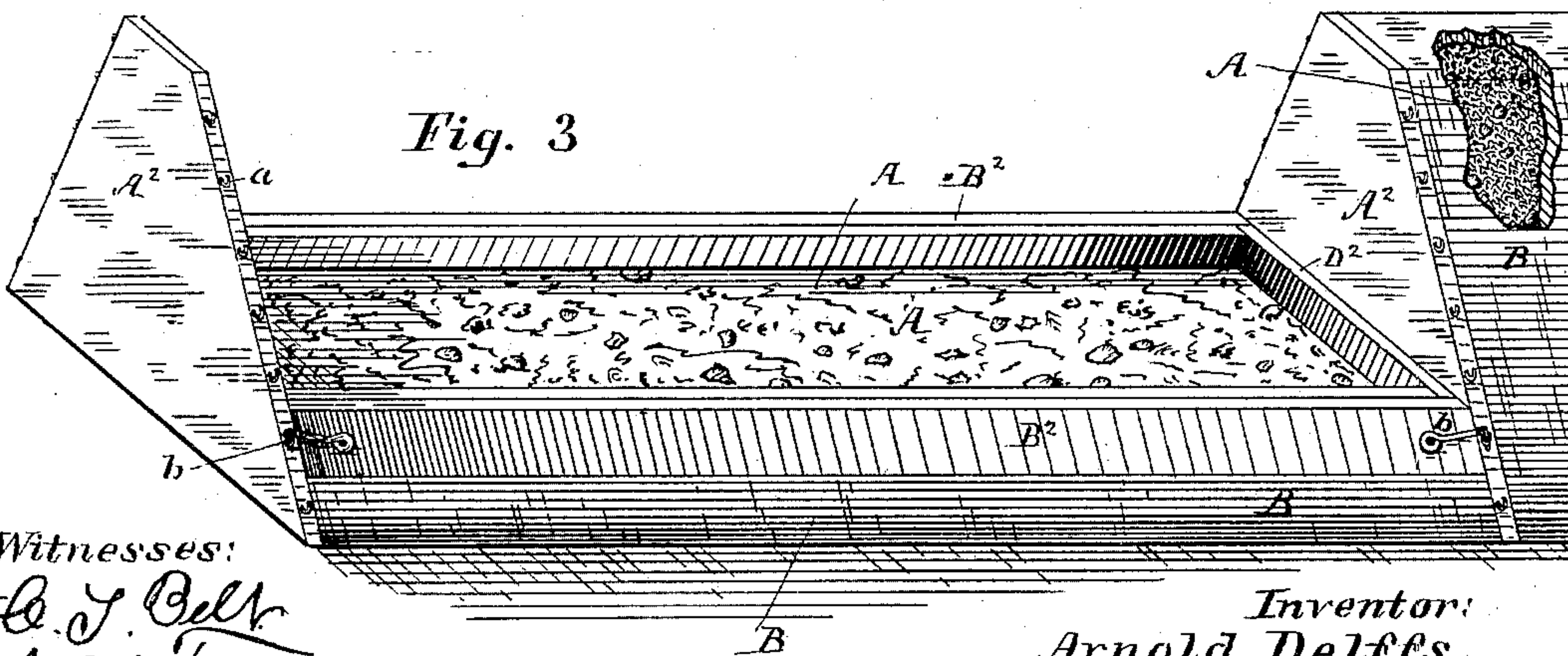


Fig. 3



Witnesses:

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# UNITED STATES PATENT OFFICE.

ARNOLD DELFFS, OF BEDFORD, TENNESSEE.

## EARTHEN FENCE.

SPECIFICATION forming part of Letters Patent No. 277,687, dated May 15, 1883.

Application filed December 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ARNOLD DELFFS, a citizen of the United States, residing at Bedford, in the county of Bedford and State of Tennessee, have invented certain new and useful Improvements in Earthen Fences; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The present invention relates to that class of fences or walls which are composed of a body or core of tamped earth and an exterior coating of cement or other hard protecting material.

The object of the invention is to provide a cement or béton coated earth fence which combines cheapness with durability of construction, and can be built with ease and dispatch, so as to be virtually water-proof and not liable to crack.

To these ends the invention consists in making the fence or wall in sections of tamped or hard-packed earth coated with cement on the sides, ends, and top, fissures or channels being left between the various sections for surface drainage and to guard against the cracking of the fence by the settling thereof in loose soils.

In the drawings, Figure 1 is a perspective view of a section-fence built in accordance with my invention. Fig. 2 is a perspective view of the mold or frame used in building the fence, the parts being in the first or normal position. Fig. 3 is a similar view, showing the adjustable side boards and loose side and end strips shifted into a higher position in relation to the pyramidal end boards for receiving the second tier or layer of earth. Fig. 4 is a section of the mold, with the loose sides and end strips removed to form spaces around the packed earth for the reception of cement, béton, or other material.

The letter A designates a body or core of tamped or firmly-packed earth having sloping sides and a flat or arched top—in other words, said core or earthen body presents a pyrami-

dal shape. It is coated on its sides, top, and ends with a layer, B, of cement, béton, asphalt, or other material or composition capable of being applied in a plastic state and possessing the property of hardening by exposure to the air. The fence or wall shown by the figures of the drawings is composed of a series of aligned sections, which are placed so as to leave fissures or channels C between adjoining sections for providing means for the passage of rain-water and removing all liability of the cracking of the wall by reason of the settling thereof in certain kinds of soil. A continuous wall of tamped earth coated with cement has heretofore been proposed, but is objectionable, because it provides no outlet for surface-water, and is, moreover, liable to crack and bulge out from unequal settling.

The method of building my improved fence or wall is as follows, viz: A mold or frame composed of two pyramidal end boards, A<sup>2</sup>, shiftable side planks, B<sup>2</sup>, connected therewith, and loose strips C<sup>2</sup> and D<sup>2</sup>, placed, respectively, against the side planks and end boards, having been placed upon the surface of the ground, the space within the mold is filled with earth and stones and solidly packed down by a suitable tamping implement. As shown in Fig. 2, the parts of the mold are in the positions they occupy when building the lowest or base layer or tier of the wall. The pyramidal end boards, A<sup>2</sup>, are provided with eyes or sockets a on their edges, which receive hooks b or other fastening devices on the ends of the side planks, B<sup>2</sup>. These eyes or sockets a are arranged along the edges of the boards from the tops to the bases thereof, so as to permit the side planks to be shifted or raised as the work progresses. Loose strips C<sup>2</sup>, of the same length and height as the side planks, B<sup>2</sup>, rest against said side planks and serve to form spaces between said planks and the sides of the body of earth packed down into the mold. The loose strips D<sup>2</sup>, placed against the end boards, conform in shape or size with the pyramidal or sloping shape of said end boards and serve to form spaces between the ends of the body of earth and the end boards. After a layer or stratum of earth has been packed in the mold the loose sides and end strips, C<sup>2</sup> D<sup>2</sup>, are removed, leav-



ing a space around the sides and ends of the body of earth, which space is then filled with a plastic composition, such as cement, béton, asphalt, or artificial-stone composition. This  
 5 having been done, the side planks are shifted and raised to the next set of eye or staples, in order to bring the bottom edges of the side boards on a level with the top of the preceding stratum of earth, as is shown in Fig. 3.  
 10 The loose side and end strips are then again set in place, shorter end strips corresponding with the diminished width of the pyramidal boards  $A^2$  being used, and the operation of filling in the stratum of earth and coating of  
 15 cement again takes place, as already described. After a section of the fence or wall has been erected, the mold is shifted and brought in line with the end of said completed section, and the work of building another section takes  
 20 place in the same manner as with the preceding section. The mold may be shifted slightly each time a section is completed, so as to leave fissures of greater width between adjacent sections than would be formed by the thickness  
 25 of the end boards alone.

It will be manifest from the above description that I provide a fence or wall which consists of aligned sections of earth coated on the sides, ends, and tops with a hard cement or  
 30 protective covering, and located so as to leave channels or fissures from base to top between adjoining sections. The fissures subserve the function heretofore stated, and in addition thereto it will be evident that the cement ends  
 35 of the sections will prevent the bulging out of

the sides thereof, since they act as stays for binding each section into a firm, homogeneous body. The fissures left by the boards  $A^2$ , if desired, may be filled in with cement, as shown  
 40 by dotted lines in Fig. 1, either with or without leaving cross-channels E at the bottom for the drainage or passage of surface-water, in which case a continuous unbroken cement-covered earth wall is formed, with partitions  
 45 of cement at regular intervals, which connect or tie together the cement coatings of the sides. The top of the wall is preferably coated with cement, though it may be omitted if the core is of a character of earth that will allow it.

I reserve the right to file a separate application for patent for the mold or devices for building the fence herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A cement-covered earthen fence or wall, made in sections and having vertical fissures or water-ways between adjoining sections, substantially as herein set forth.

2. An earthen fence or wall made of a series of aligned sections having their sides and ends covered with a hard and rigid material, as and for the purpose set forth.

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

ARNOLD DELFFS.

Witnesses:

JAMES A. WARDER,  
T. A. MONTGOMERY.