

No. 887,499.

PATENTED MAY 12, 1908.

P. McMILLAN.
LEEVE PROTECTOR.
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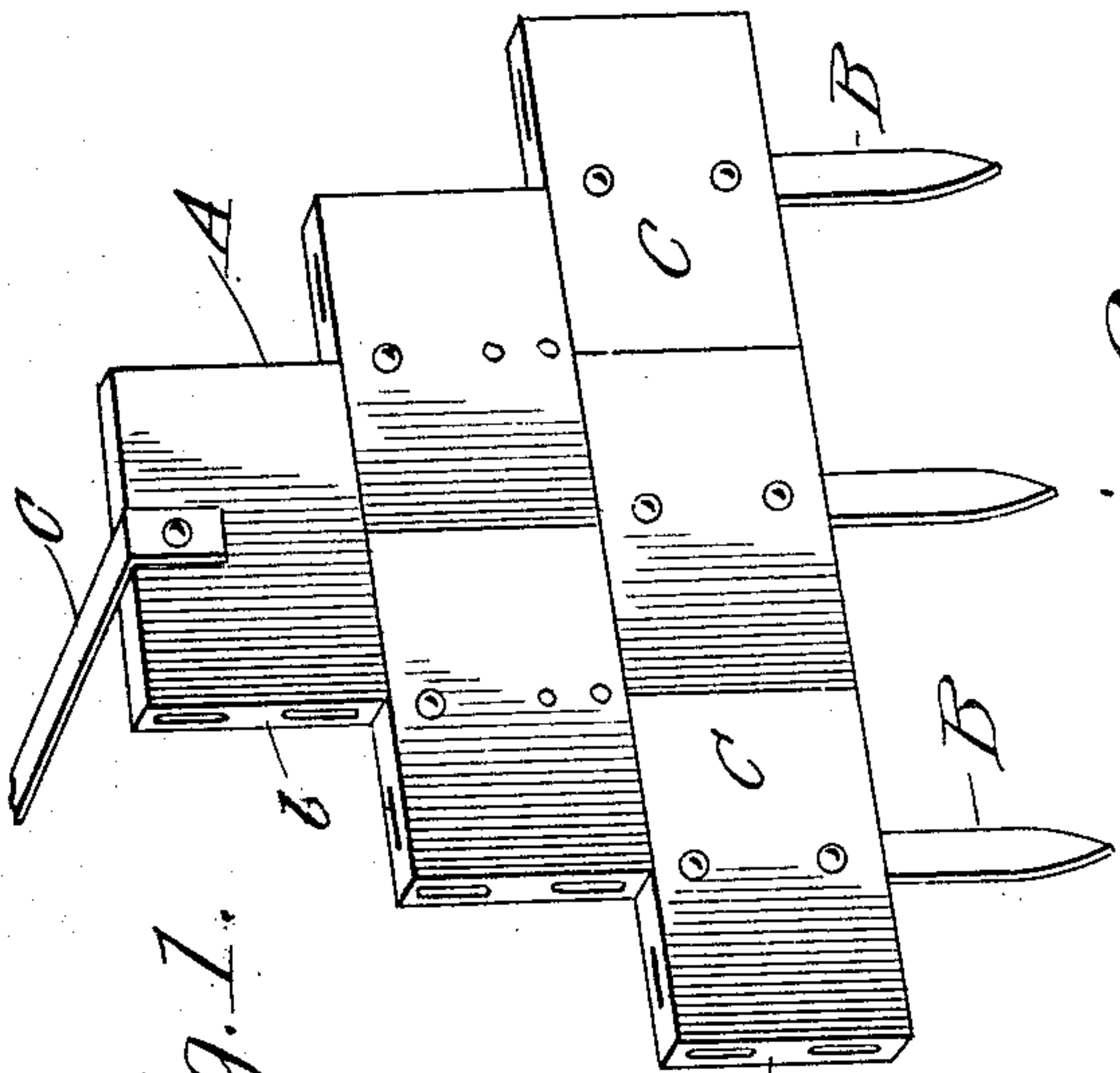


Fig. 1.

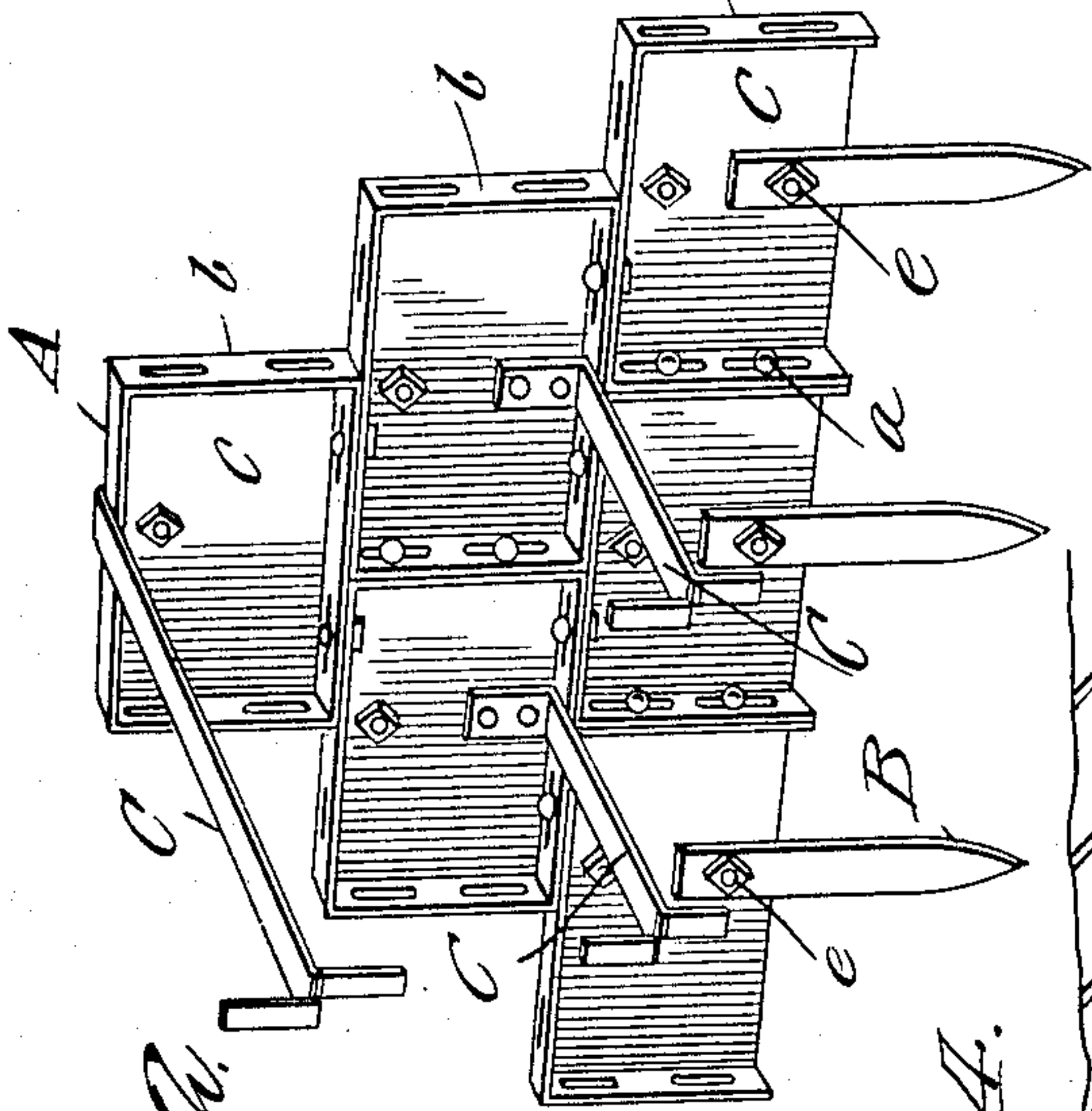


Fig. 2.

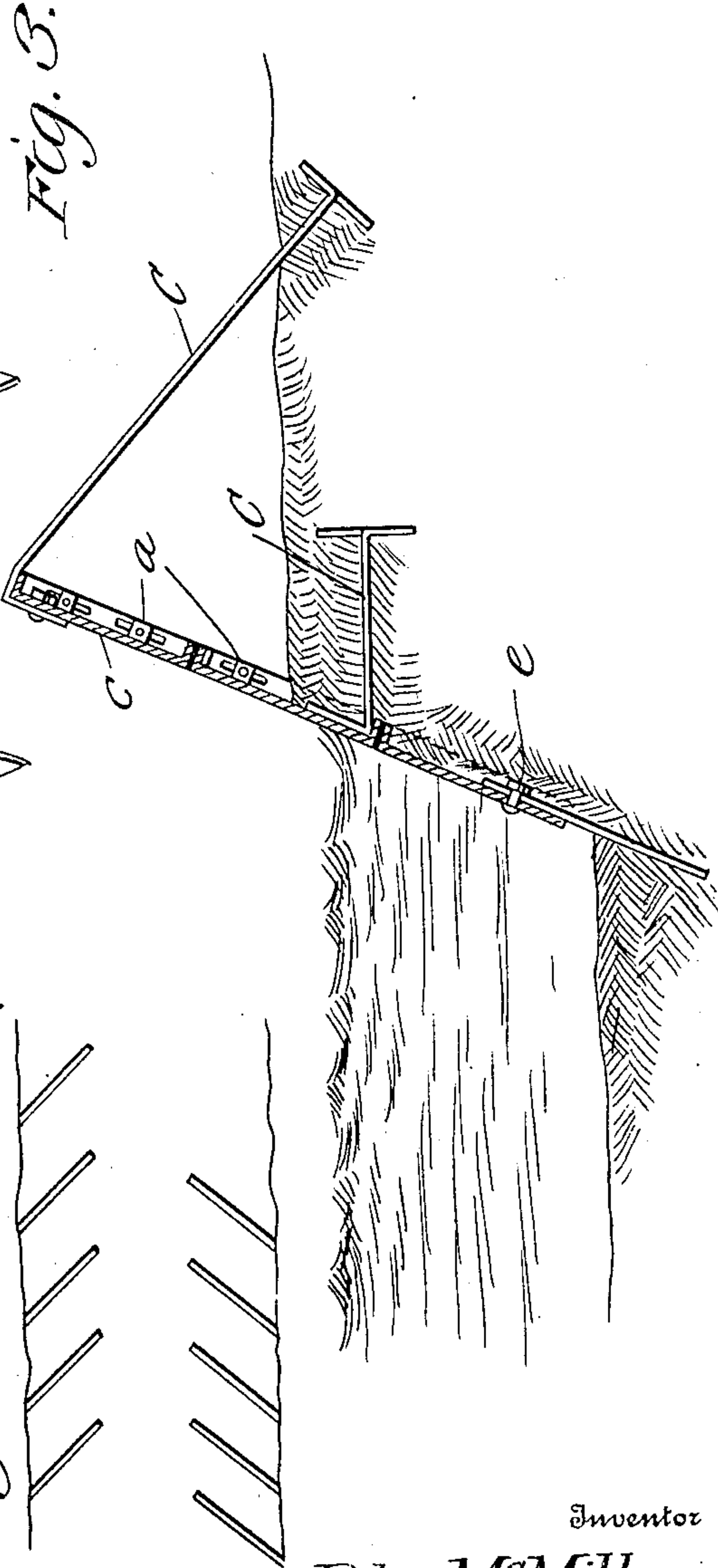


Fig. 3.

Fig. 4.

Witnesses

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PETER McMILLAN, OF PIERCE CITY, MISSOURI.

LEVEE-PROTECTOR.

No. 887,499.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PETER McMILLAN, a citizen of the United States, residing at Pierce City, in the county of Lawrence and State of Missouri, have invented new and useful Improvements in Levee-Protectors, of which the following is a specification.

My invention relates to the class of shields, or protectors employed against the abrasion or deterioration of the banks or levees of rivers, and other flowing waters, which rise and fall by tides, heavy rains or increase or decrease of the levels of said rivers or waters.

The object of the invention is to provide a removable shield or protector, that may be placed at points, which are exposed to the dangers of washing, etc., of this character, and will prevent the disastrous abrasion or injury to said banks alluded to.

The invention consists in novel features of construction and the peculiar arrangement of parts, as will be more fully described hereinafter and particularly pointed out in the claims, reference being had to the accompanying drawing and the letters of reference thereon.

In the accompanying drawing: Figure 1 represents a front view of the protector or shield in perspective. Fig. 2 represents a similar view of the rear side of the same. Fig. 3 is a vertical transverse section through the same. Fig. 4 is a diagram showing a number of the shields placed at angles to the sides of a stream and projecting into the stream.

In the drawing, A represents the protector or shield, which is in transverse section of a frusto-pyramidal shape and constructed in the usual way. The shield A is applied to the water front of the bank or levee, extending partly below the level of the water, as shown, and it is constructed in sections either of cast or wrought iron, or of wood strengthened with iron, of any suitable size and thickness. These sections are bolted together by bolts, or their equivalents, *a*, which pass through slots in the flanges *b* of the plates *c*. By means of the slots, the plates can be adjusted against each other, which is very important. These plates are provided with flanges *b* on their four edges, by which the said plates are greatly strength-

ened and stiffened. The shield being thereby also made more rigid and is prevented from bending or warping. The shield is of course backed by the front of the levee or bank, and as it extends above the crown of the latter, it is necessary to provide means for resisting the pressure of the water. This is effected by the braces C, which are secured to the back of the shield and the other end of said braces are inserted in the bank or levee and form anchors, by bending the ends of the braces up and down. This shield can be used upon either old or new levees for preventing the washing or abrasion of the bank of a river by heavy rains or the rise of the river itself, and when used in constructing new levees or banks permit a much smaller quantity of material to be used than is ordinarily the case. The anchors B are pointed at their lower ends and are driven into the earth and serve to hold the shield in place. They are secured to the lower plates by bolts *e*, rivets or the equivalents.

In building new levees the lower section is placed in position partly below the natural surface and the levee filled up to its upper edge, when new sections are added and the work continued until a sufficient height is reached for the levee structure. It is also well adapted as a breakwater or dike for deepening channels, in which bars have been formed by confining the water to the channel, as shown in Fig. 3, and resulting in removing the obstacle. In this case the shields are set at an angle to the bank as far as the bank or the portion requiring deepening extends, and thus confining the water to a narrow channel, that causes the current to scour or wash out the bottom. It is also of great service for temporary use in repairing old levees by defending them from the water, while the repairs are progressing.

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

1. A shield for application to a levee or bank of a river, consisting of sections bolted together, each of such sections, formed with

flanges, having slots through which the bolts pass, and forming a smooth and rigid front.

2. A shield formed of metallic sections, provided with flanges having slots for adjusting them to each other, for application
5 to a levee or river bank, and having braces for securing them to the levee.

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

PETER McMILLAN.

Witnesses:

R. H. DAVIS,
L. L. ALLEN.