

(No Model.)

G. S. MILLER.
BRACE.

No. 504,604.

Patented Sept. 5, 1893.

FIG 1

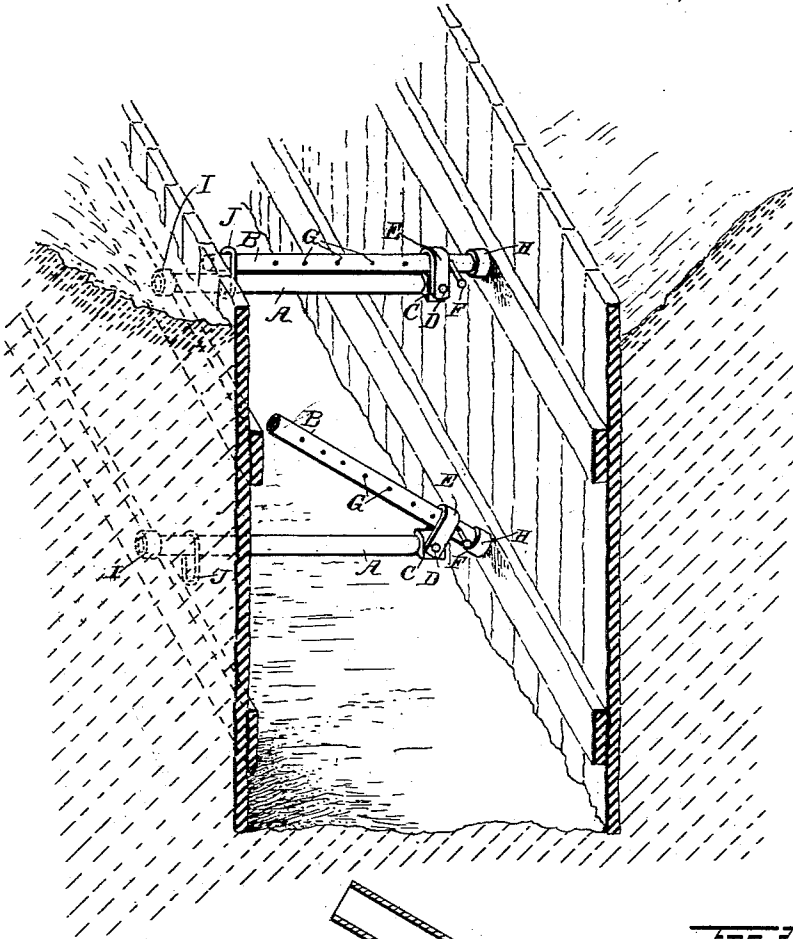
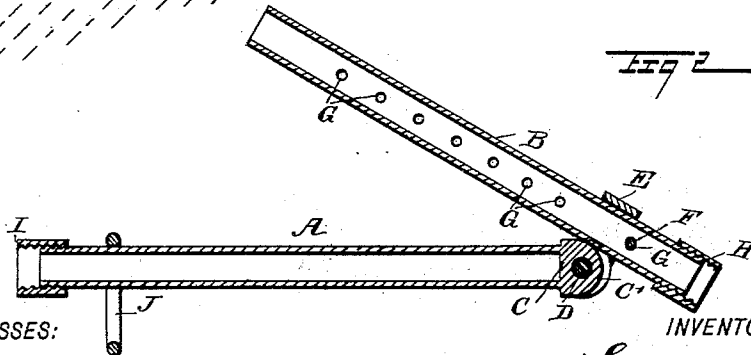


FIG 2



WITNESSES:

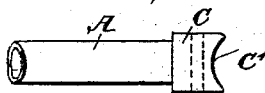
N. Walker
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ATTORNEYS.

FIG 3



UNITED STATES PATENT OFFICE.

GEORGE S. MILLER, OF COUNCIL BLUFFS, IOWA.

BRACE.

SPECIFICATION forming part of Letters Patent No. 504,604, dated September 5, 1893.

Application filed April 6, 1893. Serial No. 469,326. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. MILLER, of Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a new and Improved Brace, of which the following is a full, clear, and exact description.

The invention relates to braces used for supporting planks in excavations, such as ditches, canals, &c.

10 The object of the invention is to provide a new and improved brace, which is simple and durable in construction, readily applied, and adapted to be extended to varying widths in the excavations.

15 The invention consists of two bars, of which one is provided with a pivoted yoke through which passes the other bar, and a link for locking the bars together.

20 The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, 25 in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement as applied. Fig. 2 is an enlarged sectional side elevation of the improvement; 30 and Fig. 3 is a plan view of the bar head for carrying the yoke.

The improved brace is provided with the bars A and B preferably tubular, adapted to be extended one over the other, to form a brace having a length corresponding to the 35 width of the excavation, to properly hold the planks or other devices forming the banks of the excavation, in place. The bar A is formed with a head C having its end rounded off, as is plainly shown in Figs. 2 and 3, the rounded part being also concaved at C' to form a channel or guideway for the other bar B. In the head C is arranged a transversely extending pivot D engaging the ends of a U-shaped 45 yoke E, through which passes loosely the bar B, the said yoke being prevented from slipping when the bars are applied, by a stop pin F passing transversely through one of a series of apertures G formed in the bar B. 50 The outer end of the bar B is formed with the

usual foot H, adapted to engage one side of the excavation, while the other side of the latter is engaged by a foot I, held on the other bar A. A link J is hung loosely on the bar A and is adapted to engage the other bar B when 55 the latter is pressed down on top of the bar A, to rest on the latter, as is plainly shown in the upper part of Fig. 1.

The device is used as follows: The bar A is first placed in a horizontal position to engage, 60 with its foot I, one side of the excavation, as shown in the lower part of Fig. 1, the other bar B then being slid outward in the yoke E, to engage, with its foot H, the other side of the excavation. The bar B then stands in 65 an inclined position, and when its foot rests against the respective side of the excavation, then the pin F is inserted in the aperture G next to the outer side of the yoke E, and then the operator bears down on the upper end of the bar to press the latter downward upon the 70 top of the bar A. As soon as the bars are in this position, the link J is lifted and slipped over the bar B, so as to hold and lock the bars A and B together, as is plainly shown in 75 the upper part of Fig. 1. It will be seen that by this arrangement the brace can readily be extended to any width of excavation, and can readily be applied and locked in place in the manner described. The brace may be made 80 still further extensible than as shown and described, by coupling short pieces of pipe on the ends of the tubular bars A, B, thereby adapting the brace to fit any ditch much wider than the combined length of the said 85 bars.

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

1. A brace comprising two bars, a yoke 90 carried on the head of one of the bars and through which passes the other bar, and a link for locking the two bars together, substantially as shown and described.

2. A brace comprising two bars, of which 95 one is provided with a head and the other with a series of apertures, a yoke pivoted on the said head, and a stop pin passing through one of the said apertures in the said bar, substantially as shown and described. 100

3. A brace comprising two bars, of which one is provided with a head and the other with a series of apertures, a yoke pivoted on the said head, a stop pin passing through one
5 of the said apertures in the said bar, and a link for locking the two bars in position, as set forth.

4. A brace comprising a bar formed at one end with a foot and at the other end with a
10 head having a rounded concaved outer surface, a yoke pivoted on the sides of the said head, a second bar passing loosely through

the said yoke and guided in the said rounded head, the said second bar being provided with a foot and a series of apertures, a pin adapted to engage one of the said apertures to limit
15 the movement of the yoke on the apertured bar, and a link for locking the two bars together, substantially as shown and described.

GEORGE S. MILLER.

Witnesses:

A. W. RIEKMAN,
JAS. N. BOWMAN.