

(No Model.)

B. F. COX & J. FAHEY.
SCREW JACK.

No. 500,757.

Patented July 4, 1893.

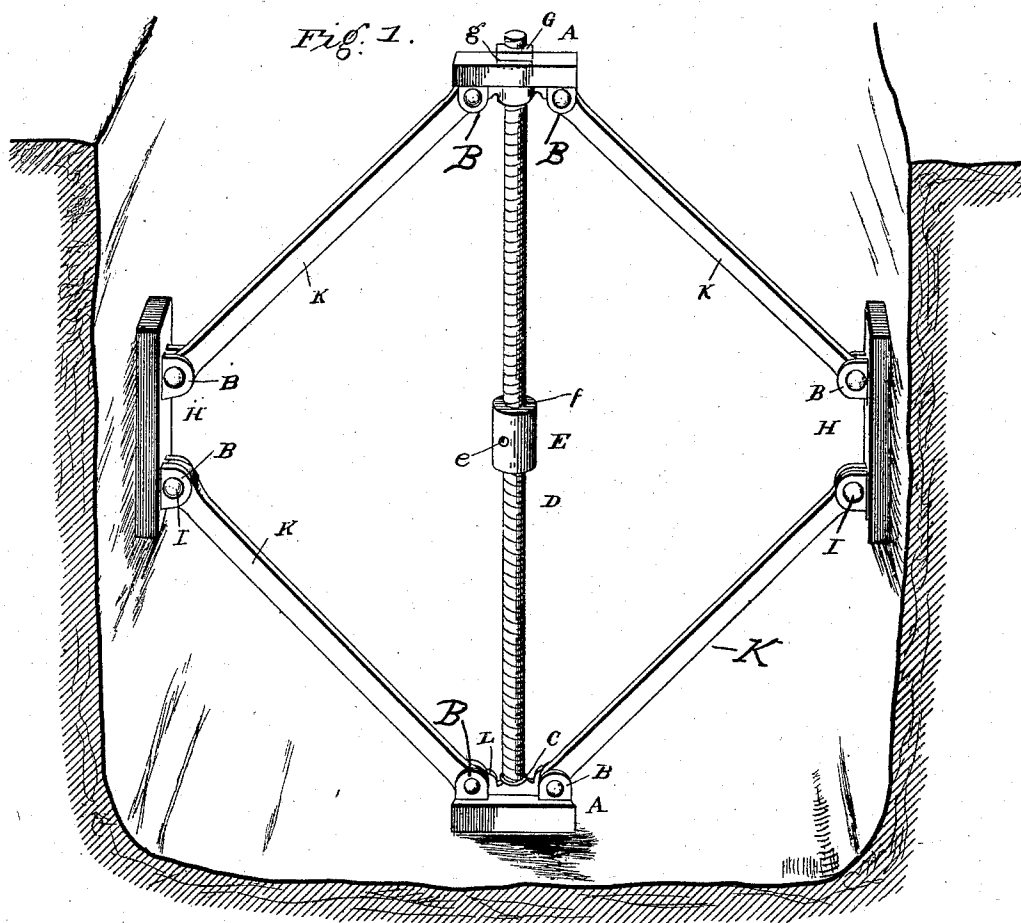
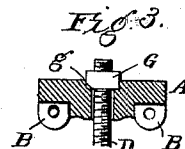
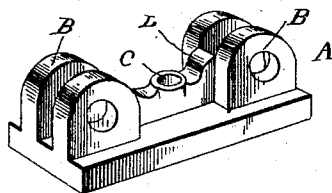


Fig. 2.



Witnesses

A. Johnson.
D. S. & Co.

Inventors

By their Attorneys,
B. F. Cox & J. Fahey
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UNITED STATES PATENT OFFICE.

BENJAMIN F. COX AND JOHN FAHEY, OF ST. JOSEPH, MISSOURI.

SCREW-JACK.

SPECIFICATION forming part of Letters Patent No. 500,757, dated July 4, 1893.

Application filed October 28, 1892. Serial No. 450,195. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. COX and JOHN FAHEY, citizens of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Screw-Jack, of which the following is a specification.

Our invention relates to a device for shoring, bracing, or staying walls, banks, &c., during the process of excavating, building, repairing, &c.

The special object of our invention is to provide a device for sustaining the banks and preventing them from caving in or falling, while excavating for the laying of sewer and other pipes.

In the present practice it is usual to employ shoring timbers, or braces, which are set transversely in the ditch or excavation, with boards between their ends and the sides or walls of the ditch, wedges being driven between the boards and the ends of the timbers to produce the necessary outward pressure or strain to hold the parts in place, but the timber or the boards, or the wedges, are liable to be displaced by the workmen, or by the inward pressure of the earth, thus allowing the banks to fall in.

The object of our invention is to provide a brace or jack by the use of which such casualties may be avoided.

Further objects and advantages of our invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of our screw jack applied in the operative position in a ditch. Fig. 2 is a detail view, in perspective, of one of the head-plates. Fig. 3 is a sectional view of the same.

A A designate the head-plates, provided upon their inner or opposite faces with the ears, B B, arranged in pairs, and provided at their centers with the openings, C C.

The adjusting screw, D, is provided with a central collar, E, having radial sockets *e*, to receive a suitable turning pin (not shown) and is threaded in opposite directions, namely, right and left, upon opposite sides of this collar. The ends of this screw project through the central openings in the head-plates, and

are fitted with nuts, G G, which are threaded thereon and engage angular seats, *g g*, in the outer sides of the plates. Thus, the nuts are held from rotation, to enable the head-plates to be drawn inward, or toward each other, when the adjusting screw is turned.

H H represent the side or pressure plates, which are adapted to bear against the opposite sides or walls of the excavation or ditch, and these plates are also provided with ears, B B, as above described in connection with the head-plates. Pivotaly connected to these plates, by means of transverse pins, I I, arranged in the ears, are the connecting arms or links, K K, whereby the upper head-plate is connected by two downwardly divergent arms or links to the upper ends of the side plates, and the lower head plate is connected by means of the upwardly divergent arms or links to the lower ends of the side plates.

Between the pairs of ears, upon the head-plates are arranged stops, L L, to engage the ends of the connecting arms or links and prevent the head-plates from being drawn near enough together to allow the arms or links to collapse.

In operation the adjusting screw is arranged vertically with the side-plates in contact with the sides or walls of the excavation or ditch. By turning the adjusting screw these side plates are forced outward, thus firmly supporting the sides of the cut.

One of the important features of our invention is its simplicity of construction and operation. No unnecessary parts are employed. Furthermore, the bearing plates are arranged and connected so as to accommodate the various inclinations and irregularities of the sides of an excavation, without interfering with the operativeness of the device. Furthermore, except for the central vertical screw, the interior of the ditch is free from obstruction, as no guides or intermediate stays are employed. Furthermore, the nuts which engage the opposite ends of the adjusting screw form no part of the head plates, but are merely carried thereby, as described, whereby when worn they may be replaced at a small cost.

We are aware that various changes may be made in the details of construction of our de-

vice without departing from the spirit of our invention, and we reserve the right to make such changes within the scope of our improvements.

5 Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

10 A screw jack having opposite head plates, an oppositely threaded adjusting screw passing at its ends through central openings in the head-plates, removable nuts engaging the ends of the adjusting-screw and fitting in angular seats in the outer sides of the plates,

the side or bearing plates, the connecting arms or links connecting the side plates to the head plates, and stops arranged upon the head plates to engage the ends of the said arms or links, substantially as specified. 15

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses. 20

BENJAMIN F. COX.
JOHN FAHEY.

Witnesses:

W. H. HINDS,
WM. B. CHURCHILL.