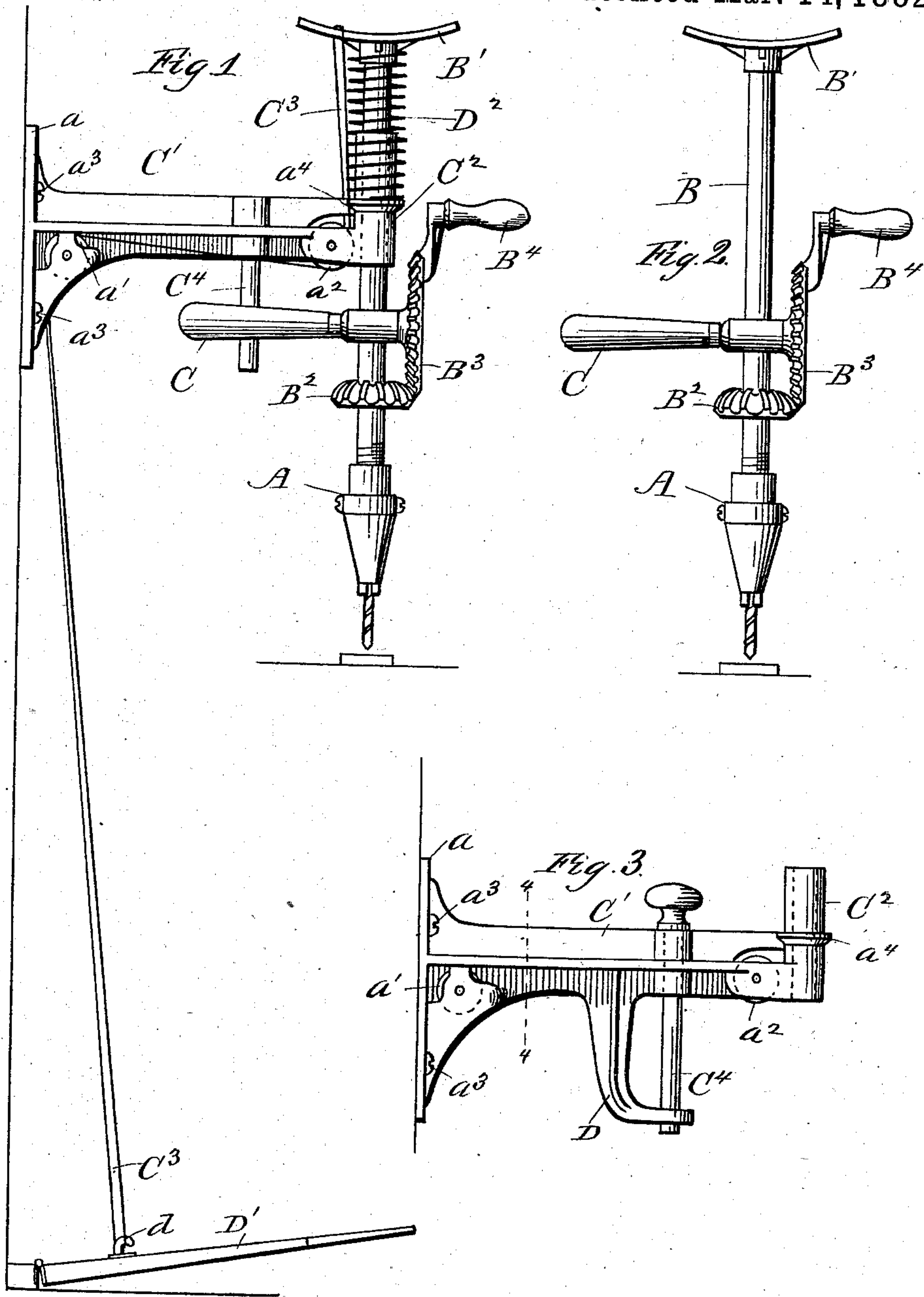


(No Model.)

D. B. HARTLEY.
DRILLING MACHINE.

No. 255,079.

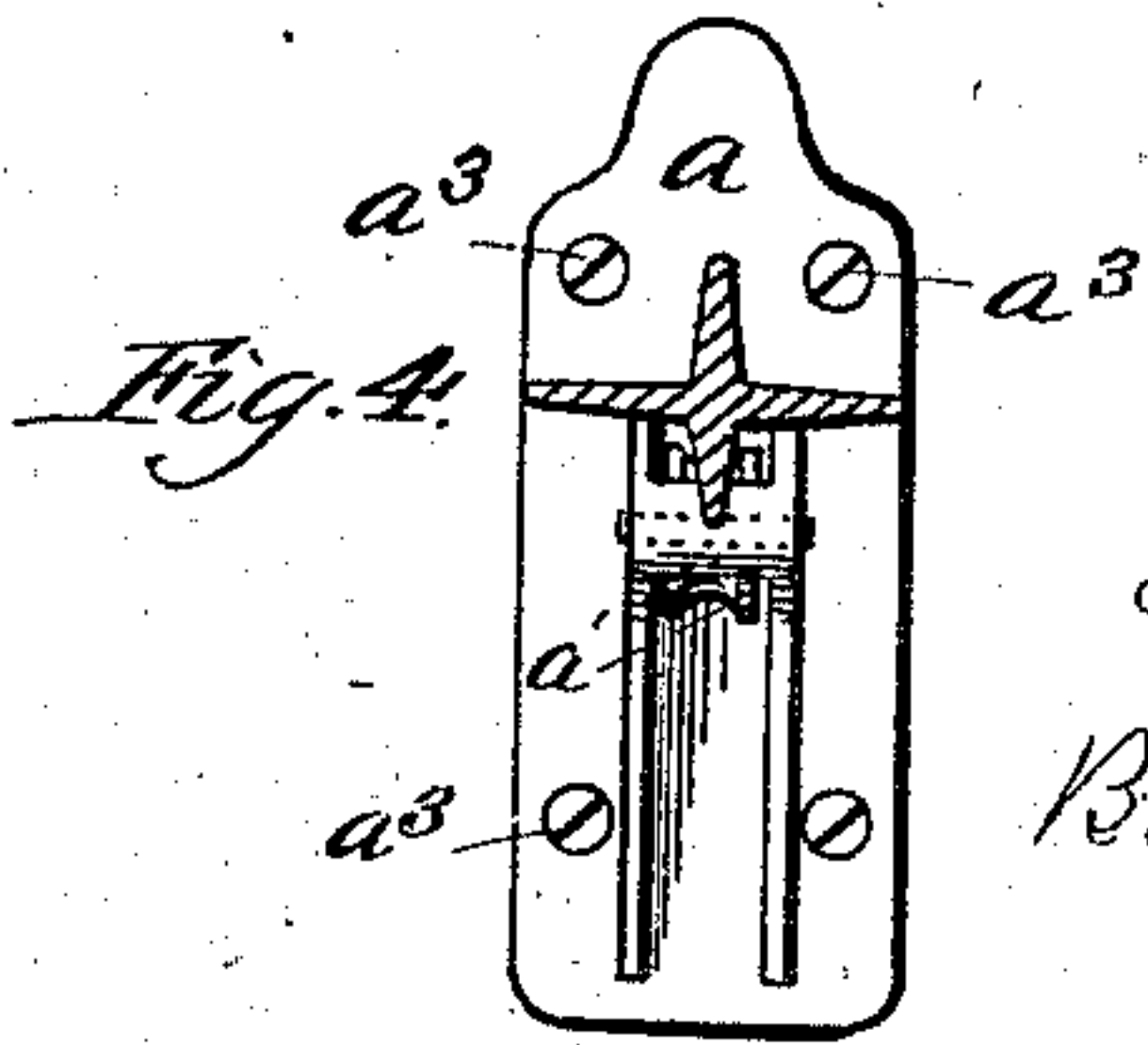
Patented Mar. 14, 1882.



WITNESSES.

F. B. Torrensund

L. L. Fisher



INVENTOR-

D. Bert Hartley

By L. B. Coupland & Co
attys.

UNITED STATES PATENT OFFICE.

D. BERT HARTLEY, OF CHICAGO, ASSIGNOR OF ONE-HALF TO FRANK F. PEATS, OF ROCKFORD, ILLINOIS.

DRILLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 255,079, dated March 14, 1882.

Application filed September 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, D. BERT HARTLEY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Drilling-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, that will enable others to understand and use the same, reference being had to the accompanying drawings,
10 and to letters of reference marked thereon, forming a part of this specification.

The object of this invention is to provide a simple and convenient device whereby an ordinary breast-drill may be temporarily converted into a vertical machine or power drill
15 as occasion may require.

Figure 1 is a side elevation embodying my improvement; Fig. 2, an elevation of a common breast-drill. Fig. 3 is a side view of a
20 bracket adapted to support the drill, and Fig. 4 is a vertical transverse section in the line 4 4, Fig. 3.

Referring to the drawings, A represents an ordinary breast-drill, consisting of the drill-
25 stem B, the breast-plate B', the bevel-gear wheels B² B³, the operating-crank B⁴, and the hand-grasp C.

The bracket C' is provided with the attaching-flange a, the opposite end being formed
30 with the round part C², which is perforated, as indicated by the dotted lines, for the insertion of the drill-stock. The underside of this bracket is recessed for the reception of the rotating sheaves a' a², adapted to carry the cord C³,
35 which passes over the sheave a' and under the sheave a². The removable bolt C⁴ passes down through the bracket and through a hole in the hand-grasp C. The bracket shown in Fig. 3 of the drawings has the arm D formed integral,
40 which serves to strengthen the bracket and holds the drill firmer in heavy work; but ordinarily the bracket shown in Fig. 1 of the drawings, will answer the purpose. The bracket C' may be attached to the wall or other convenient place by means of the screws or bolts
45 a³, inserted through the flange a, and the foot-treadle D' placed in a position corresponding thereto.

The spiral spring D² is placed upon the upper end of the drill-stock B, as shown in Fig.
50 1 of the drawings, the lower end bearing on the flange a⁴ and the upper end against the underside of the breast-plate B', and serves to

return the drill to a normal position when the pressure is relaxed on the treadle.

When it is desired to change the breast-drill
55 into a machine-drill it is easily and quickly accomplished by removing the detachable breast-plate and passing the drill-stock up through the outer end of the bracket, placing the spiral
60 spring in position, and replacing the breast-plate; then insert the bolt C⁴ through the hole in the hand-grasp and throw the upper end of the double cord C³ over the breast-plate, the lower end being attached to the hook d in the
65 treadle-lever D'. The drill is now ready for use, the feed being regulated by the pressure of the foot of the operator on the treadle, when the process of drilling may be rapidly and easily
70 performed.

By extending outward the bearing-shaft of the vertical gear-wheel a place may be provided for a band or driving pulley and the device operated by power other than hand-
75 power.

It is obvious that various forms of brackets or devices may be used for supporting the breast-drill when changed into a machine or hand drill, and also by a very slight change the drilling apparatus may be arranged in a
80 horizontal position as well as a vertical one. I therefore do not strictly confine myself to the arrangement herein shown, but may use any equivalent devices.

The breast-plate B' is secured to the drill-
85 stock by means of a pin so arranged as to readily permit of the removal of the breast-plate when required, and at the same time prevent the spiral spring from forcing the same out of position.

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

1. In a breast-drill adapted to be temporarily converted into a machine-drill, the combination, with the supporting bracket C', of the
95 spring D², the drill stem or stock B, the breast-plate B', the cord C³, and the treadle-board D', substantially as described.

2. The combination, with the hand-grasp C, of the locking-bolt C⁴ and the supporting-
100 bracket C', substantially as described.

D. BERT HARTLEY.

Witnesses:

FRANK F. PEATS,
L. B. COUPLAND.