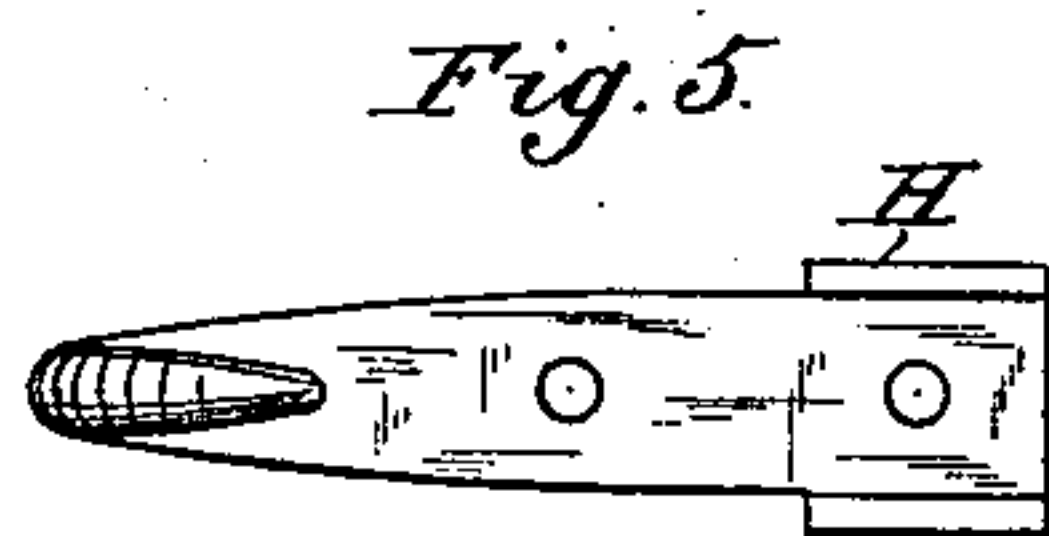
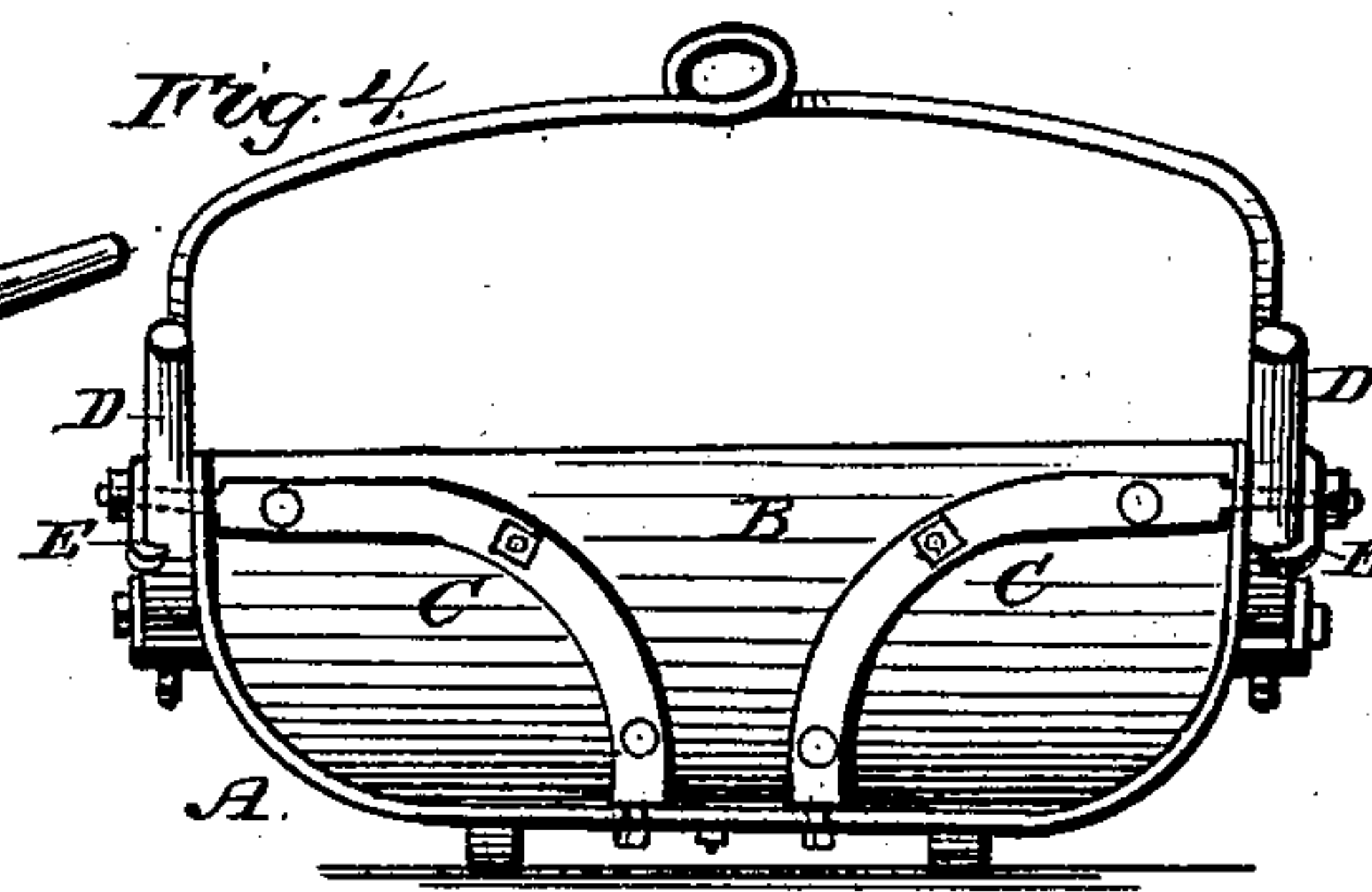
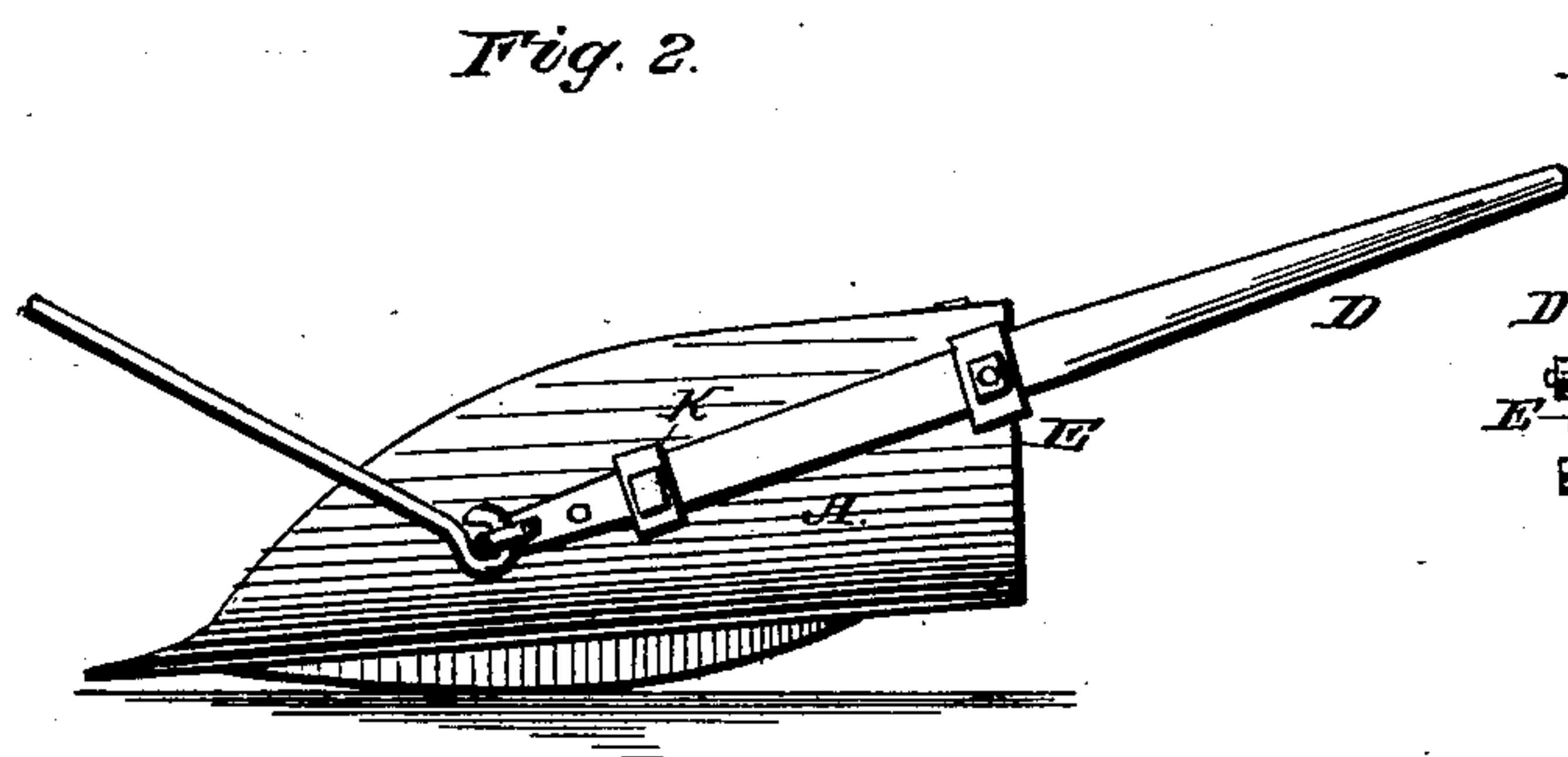
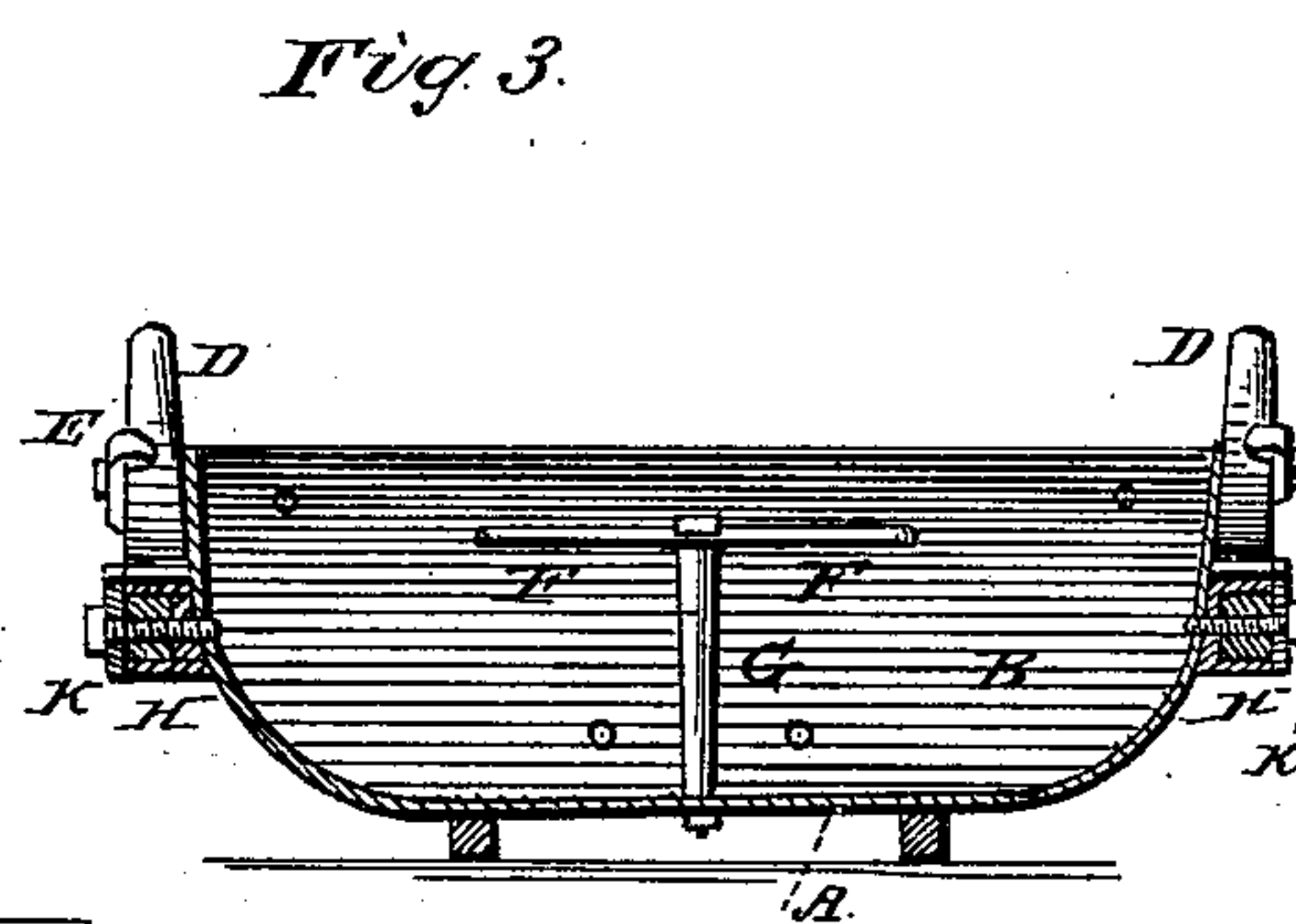
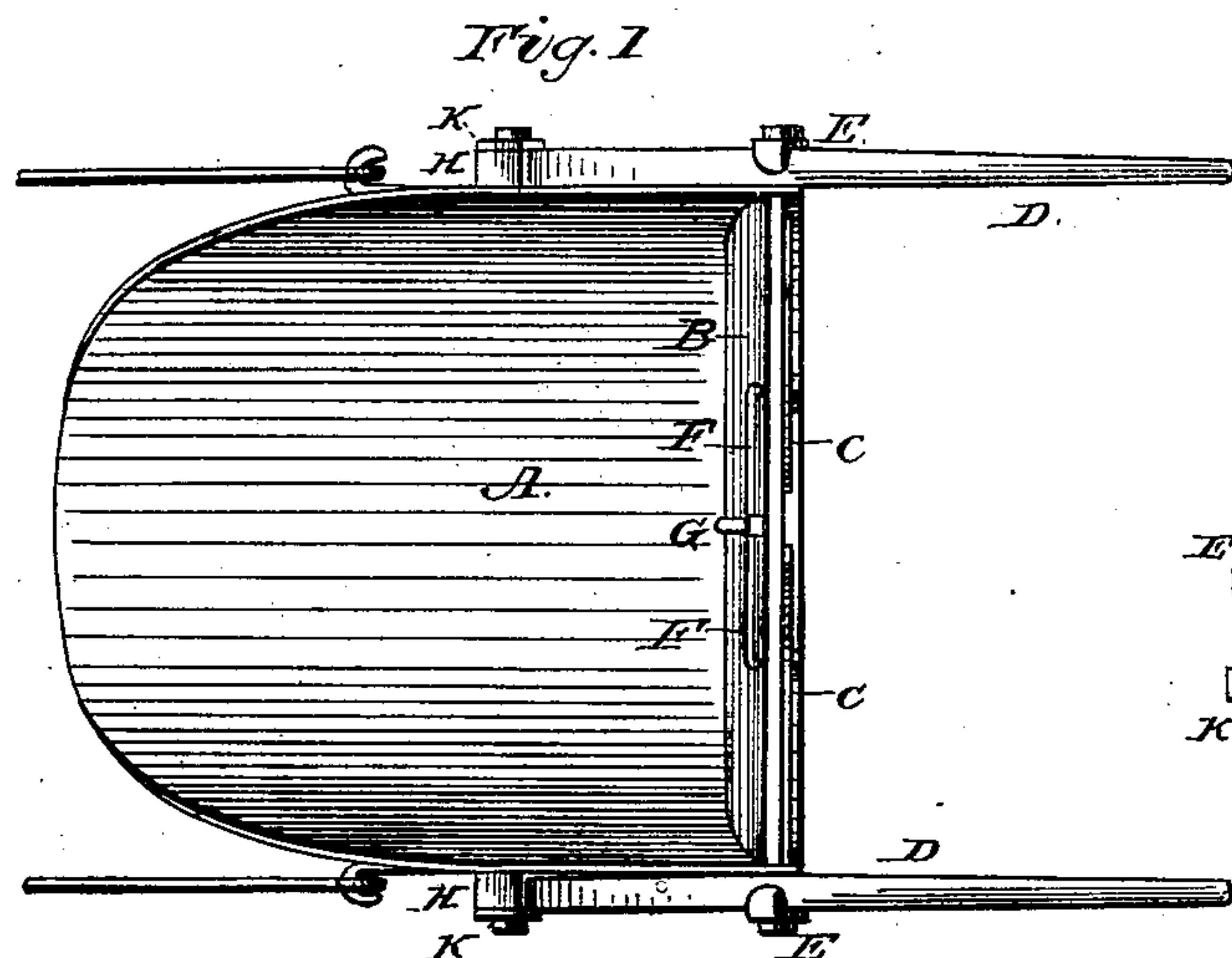


(No Model.)

J. HALE.
Earth Scraper.

No. 243,551.

Patented June 28, 1881.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN HALE, OF SIDNEY, OHIO.

EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 243,551, dated June 28, 1881.

Application filed April 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN HALE, a citizen of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have
5 invented a new and useful Improvement in Earth-Scrapers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to earth-scrapers; and it consists in certain improved features, as hereinafter described.

In the accompanying drawings, Figure 1 represents a top view, showing the outwardly-inclined end board; Fig. 2, a side view; Fig.
15 3, a sectional view, showing the inner side of the end board; Fig. 4, a rear view, and Fig. 5 a detail.

In constructing my improved scraper I secure the end board, B, to the scoop A so that
20 it will incline outward at the top at any desired angle, in order that moist earth may not cling to the same when the scraper is inverted. For securing the said end board in position,
25 instead of using the ordinary vertical and horizontal stay-rods, I employ two curved bars or braces, C C, the inner ends of which pass through the bottom of the scoop and are secured by nuts, while the outer ends pass
30 through the upper corners of the scoop, thence through the handles D and clasps E, where they are secured by nuts in like manner. These braces are secured to the end board by
35 rivets or bolts near their ends, and also by a rod, F, whose ends are bent at right angles and inserted from the inside of the end board into perforations passing through the said end board and the centers of the curved braces, where
40 they are held by nuts on the outside. On the inside of the end board is a vertical rod, G, whose lower end passes through the bottom of the scoop, where it is held by a nut or riveted, while its upper end is flattened, so as to
45 be held between the end board and the said bent rod F, and curved over the same to hold it securely in position. The objects of this construction are that the curved braces, by being arranged with their convex edges turned toward the convex lower sides of the scraper, shall
50 tend to draw the scoop and end board firmly together, while their centers are kept from

yielding by the ends of rod F; and when the scraper is inverted and being dragged forward the rods F and G on the inside of the end board will protect the same from strain
55 or breakage in case of coming in contact with stumps, stones, or other obstructions.

Besides the means above described for attaching the handles, I provide an open-sided socket, H, cast on the rear end of the draft-
60 hook which is secured to the outer side of the scraper. Into this socket the forward end of the handle D is inserted and held by means of an outer plate, K, and a bolt which passes
65 through the plate, the handle, the socket, and the side of the scoop. The wood of the handle is liable to shrink after being used for a while, and consequently should be made to project laterally from the socket when new,
70 so that, as it shrinks, by screwing up the plate K the end of the handle may be clamped between it and the socket, and thus securely held in position. Besides, the attachment both
75 of the handles and the draft-bail is rendered stronger by having the hook and socket cast in one piece.

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

1. In an earth-scraper, the two curved braces
80 C C, in combination with handles D D, clasps E E, curved scoop A, inclined end board, B, and bent rod F, substantially as shown and described, and for the purpose set forth.

2. In an earth-scraper, the bent rod F and
85 vertical rod G, in combination with the inclined end board, B, curved braces-C C, and scoop A, substantially as shown and described, and for the purpose set forth.

3. In an earth-scraper, the inclined end
90 board, B, in combination with the scoop A, curved braces C C, and rods F and G, substantially as shown and described.

4. In an earth-scraper, the clasps E E, open-
95 sided sockets H H, made in one piece with the draft-hooks, and clasps K, in combination with handles D D and scoop A, substantially as shown and described.

JOHN HALE.

Witnesses:

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