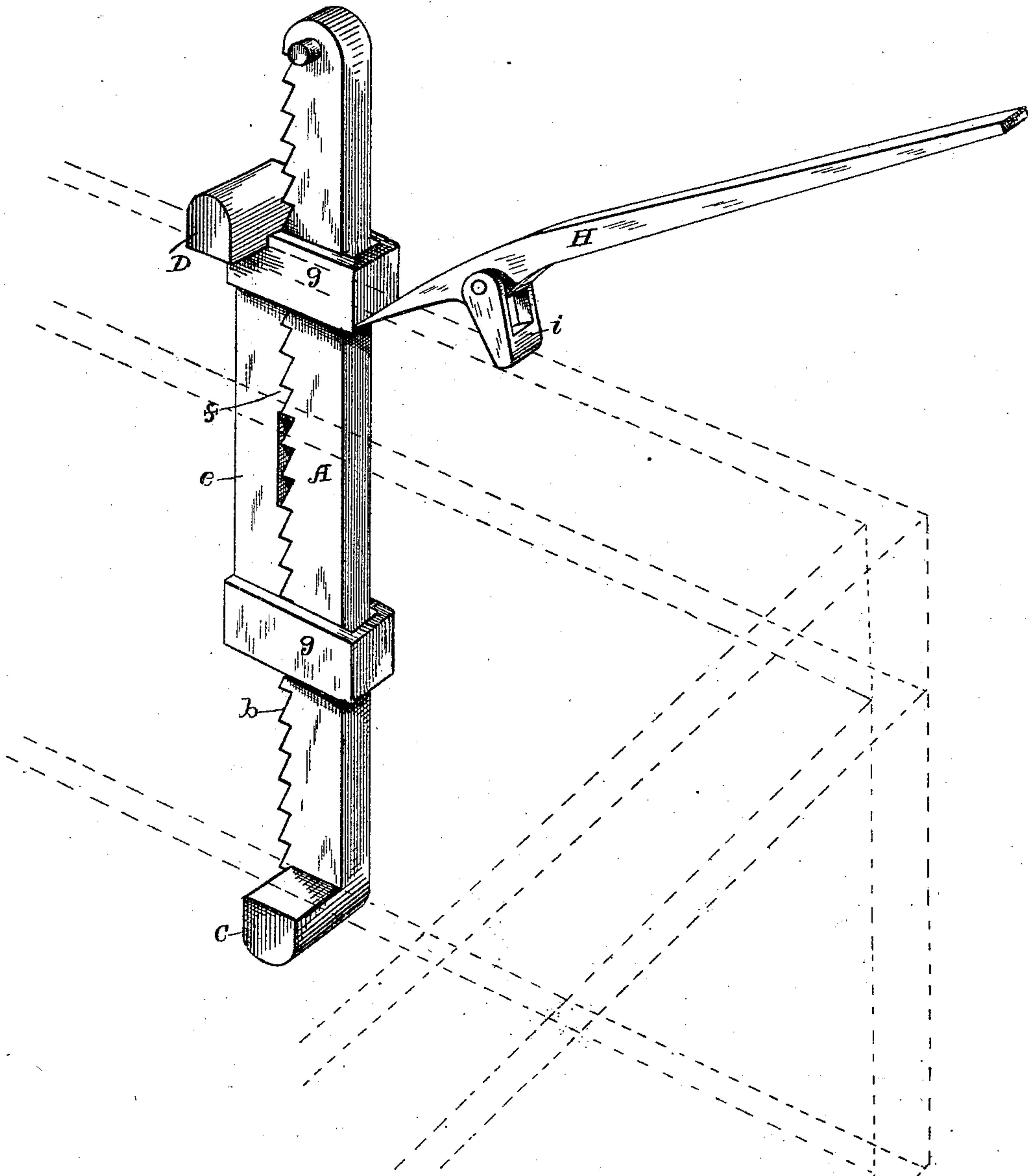


(No Model.)

T. HARDING.
FOUNDRYMAN'S CLAMP.

No. 321,812.

Patented July 7, 1885.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS HARDING, OF DETROIT, MICHIGAN.

FOUNDRYMAN'S CLAMP.

SPECIFICATION forming part of Letters Patent No. 321,812, dated July 7, 1885.

Application filed January 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HARDING, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful
5 Improvement in Clamps, especially applicable for foundry use; and I do hereby declare that the same is fully and accurately described in the following specification.

This improvement relates to that class of
10 clamps wherein there is a bar having a jaw fixed thereto and another jaw movable thereon, and provided with means whereby the movable jaw may be moved and fixed in position. Clamps of this description have been
15 heretofore made in a great variety of ways; but, so far as I am aware, none are so well adapted to the use of foundrymen as the one which I have devised, because the use of screws and other movable devices for producing pressure after the movable jaw has been fixed are
20 objectionable in a place where the device is not only subjected to rough usage, but to the constant presence of dust and dirt.

My invention therefore consists in a clamp
25 composed of a rectangular bar having ratchet-teeth cut along one face, and a laterally-projecting fixed jaw at one end, and a movable jaw fixed to a short bar with ratchet-teeth along one side, and guide-clips through which the
30 first-named bar passes, whereby the ratchet-teeth are brought opposite and in a position to engage, and a detached clamp-lever with a hinged fulcrum, whereby when the jaws have been moved to position they may be caused to
35 cramp the edges of the flask.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawing, wherein the figure is a perspective view of my
40 clamp in operative position.

A is the principal or clamp bar, provided along one side with ratchet-teeth *b*, and at one end there is a rigidly-fixed and laterally-projecting arm, *c*, which constitutes one jaw of
45 the clamp. This jaw is at the extremity of bar A, so that it may be inserted under a flask or other thing sitting on the floor without meeting obstruction other than that incident to the thickness of the jaw C. This is a

great advantage when considered with regard
50 to such work as that which goes on in a foundry. The counter or opposing jaw D is attached to a shorter bar, *e*, also provided with ratchet-teeth *f*, which are adapted to engage the ratchet-teeth *b* and prevent a fur-
55 ther separation of the jaws C D.

The bar *e* is provided with clips *g g*, which pass around the bar A and act as guides for the forward and backward motion of the bar
60 *e* on the bar A.

When the flask is to be clamped, the jaw C is slipped under the lower edge of the flask, and the jaw D is caused to descend until in contact with the upper edge of the flask, and then, by a sidewise tilt of the clamp, the teeth
65 *b* and *f* are caused to engage and the jaws C and D to cramp on the edges of the flask. To increase this latter action and make the cramping firm and secure, I employ a lever, H, provided with a fulcrum, *i*, hinged to said
70 lever, and having a biting edge or surface at its lower end, so that when resting upon the edge of the flask and in action it will not slip. Said lever is used by placing its point
75 against the clamp close down to the edge of the flask, and thus moving the foot of the fulcrum *i* as far forward toward said point as possible. The outer end of the lever is then pressed downward and forward, and the
80 point of said lever with the clamp is forced forward until the cramping action of the clamp is as strong and firm as desirable. The clamp may be instantly released by restoring it to an upright position.

If, for any reason, accidental release of the
85 clamp must be provided against, a nail or any other wedge-shaped object inserted under the uptilted edge of the jaw D will prevent the clamp from resuming an upright position.
90

A nail or other wedge shaped object inserted between one of the clips *g* and the back of the bar A will prevent any accidental disengagement of the ratchet-teeth.

Having described my invention, I claim as
95 new—

1. A clamp composed of the bar A, provided with ratchet-teeth *b*, and laterally-pro-

jecting arm or jaw C, rigidly fixed to the extremity of said bar, combined with the bar *e*, provided with ratchet-teeth *f*, the jaw D, and clips *g g*, all as set forth and described.

- 5 2. A clamp composed of a bar, A, provided with ratchet-teeth *b*, a bar, *e*, provided with ratchet-teeth *f*, jaw D, and clips *g*, through

which the bar is caused to slide, combined with the hinged lever H, provided with hinged fulcrum *i*, as set forth.

THOMAS HARDING.

Witnesses:

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