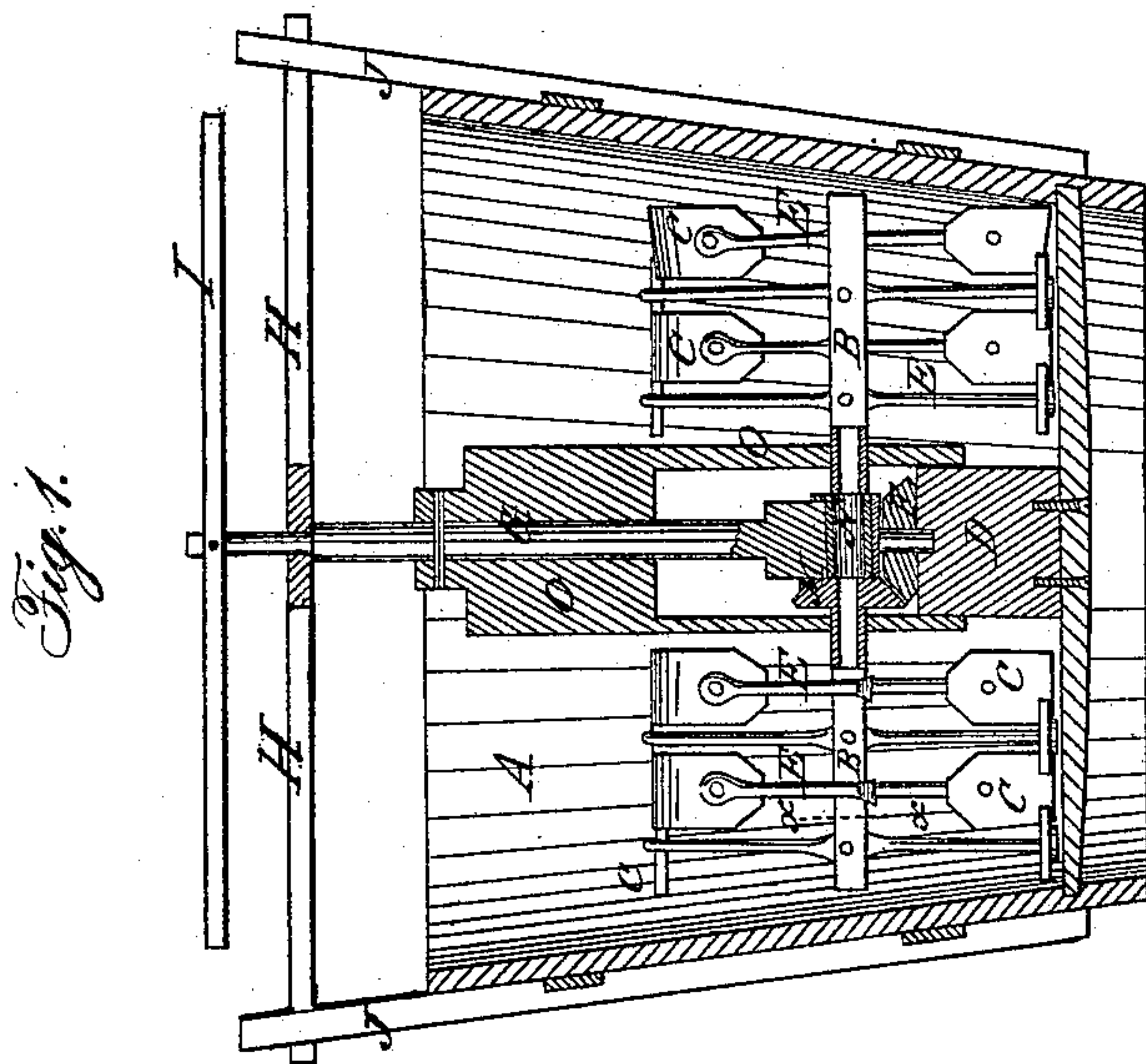
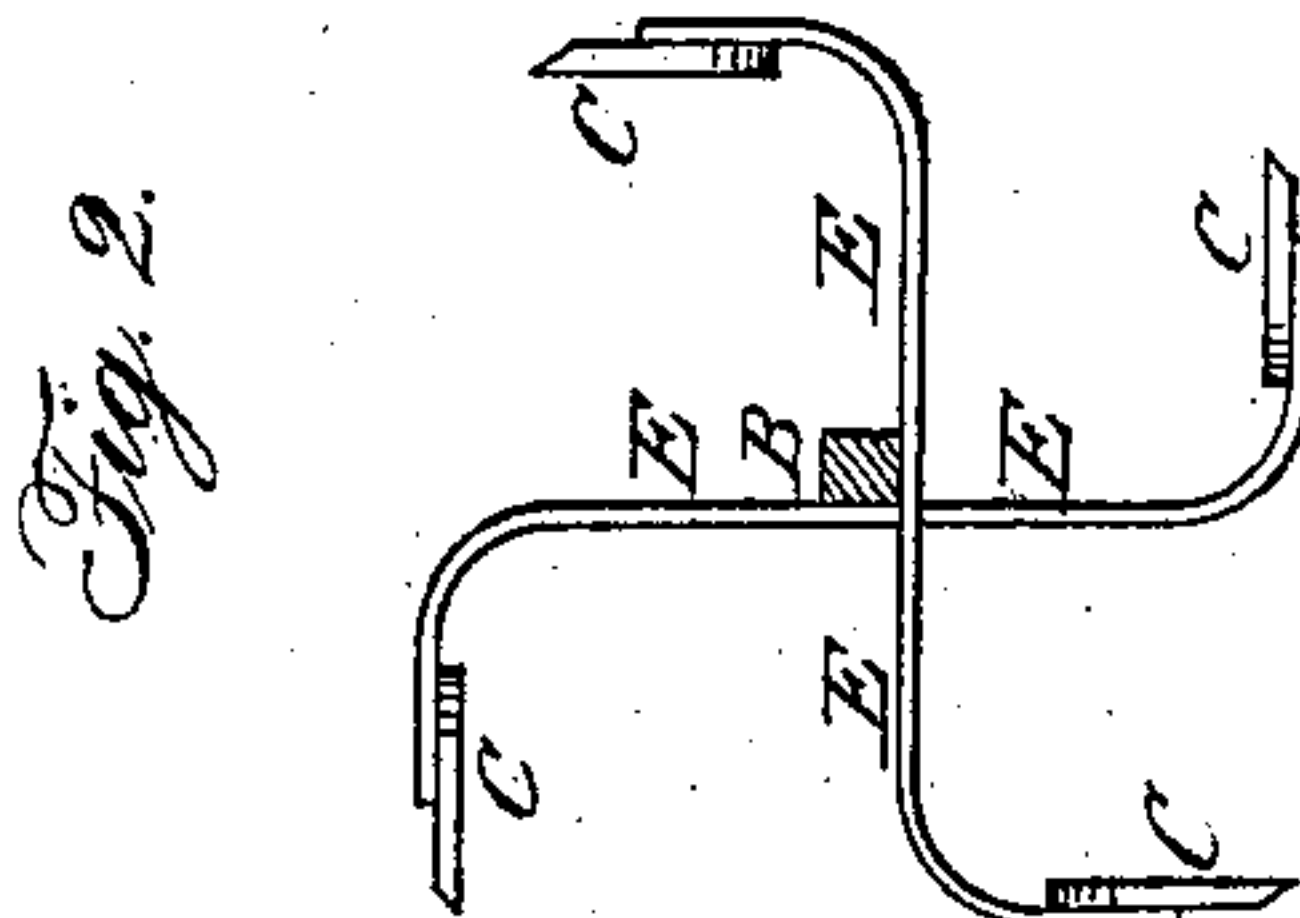


J. T. FORRER.
Mash Machine.

No. 53,597.

Patented Apr. 3. 1866.



Witnesses:

J. H. D. Corington
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Inventor:

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UNITED STATES PATENT OFFICE.

JACOB T. FORRER, OF PEORIA, ILLINOIS.

IMPROVED MASH-MACHINE.

Specification forming part of Letters Patent No. 53,597, dated April 3, 1866.

To all whom it may concern:

Be it known that I, JACOB T. FORRER, of Peoria, in the county of Peoria and State of Illinois, have invented a new and useful Improvement in Mash-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my improved mash-machine. Fig. 2 is a detail sectional view through the line *xx*, Fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object the furnishing a machine for stirring dry or wet malt; and it consists in combining the necessary shovels, arms, shafts, and gearing with each other and with the malt-tub, as hereinafter more fully described.

A is the tub, which may be of any desired size and of any convenient height, though its top need not be much higher than the shaft B, which carries the shovels C.

In the center of the bottom of the mash-tub A is placed a short post or pillar, D, which must so correspond with the depth of the tub and the length of the arms E of the shovels C that said shovels may reach to the bottom of said tub and thoroughly agitate all the malt. To the top of the post D is attached a bevel gear-wheel, F.

The wheel F and the top of the post D are perforated, so as to form a pivoting point for the lower end of the vertical shaft G. The lower end of said vertical shaft is supported by, and is pivoted to, the upper end of the post D, and has its upper end held in position by passing through the horizontal beam H.

To the end of the vertical shaft G, projecting above the beam H, are attached the sweeps I when the machine is operated by horse-power, or other gearing when the machine is operated by steam.

In the drawings, the beam H is represented as being supported by posts J, attached to the sides of the mash-tub A; but they should be attached to the sides of the building, or be separate from the tub. The shaft B passes

through the shaft G and is carried around with it as said shaft G revolves on its pivoting-point.

To the shaft B is attached a bevel-gear, M, which meshes into the bevel-gear E, attached to the top of the post D. By this means the shaft B, at the same time that it is carried around by the shaft G, is made to revolve vertically, carrying around with it the arms E and shovels C, and stirring the malt.

N is a washer, placed upon the part of the shaft B that passes through the shaft G, for the purpose of diminishing the friction between the shafts B and G. Upon the shaft B are attached the arms E, which carry the shovels C. They should be made of wood, and should be of such a shape as to give the proper dip to the shovels C for stirring the malt thoroughly.

The shovels C, which are attached to the ends of the arms E, should be made of wood, and should have such a position with reference to the arms E and tub A as will insure all the malts being acted upon by said shovels.

O is a cap or casing surrounding the metallic parts of the machine, and preserving the malt from injury by coming in contact with said metallic parts. The cap O is attached to the shaft G, has holes in its sides for the passage of the shaft B, overlaps the upper end of the post D, and is carried around by and with the shaft G in its revolution.

The number of the arms E and shovels C should be sufficient to insure every part of the bottom of the tub A being operated upon by the shovels, and by making the top of the tub larger than the lower part the outer shovels may be made to come close into the corner or angle formed by the side and bottom of the tub.

When the machine is used for dry malt the shovels should be hollowed or scooped out a little, and their number need not be so great as when used for wet malt.

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

1. The combination of the shafts G and post D with the tub A, substantially as described, and for the purpose set forth.

2. The combination of the shaft B with the

shaft G, post D, and tub A, substantially as described, and for the purpose set forth.

3. The combination of the shovels C and arms E with the shaft B and tub A, substantially as described, and for the purpose set forth.

4. The combination of the cap or casing O with the shafts G and B, and with the post D,

substantially as described, and for the purpose set forth.

JACOB T. FORRER.

Witnesses:

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