E. HAECKEL.

Malt Mashing Machine.

No. 25,329. Patented Sept. 6, 1859.

Fig. 2.

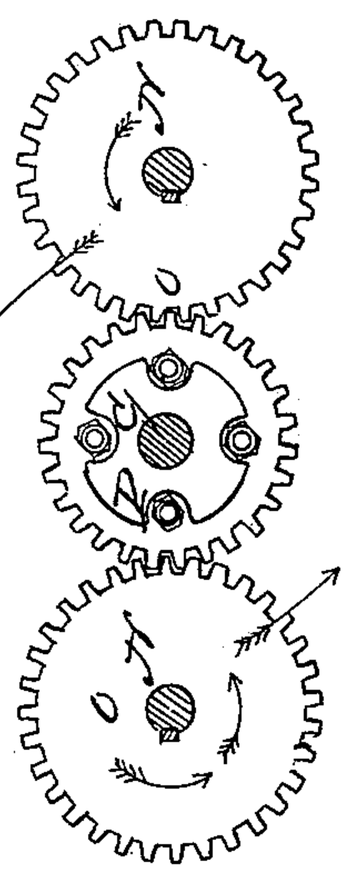
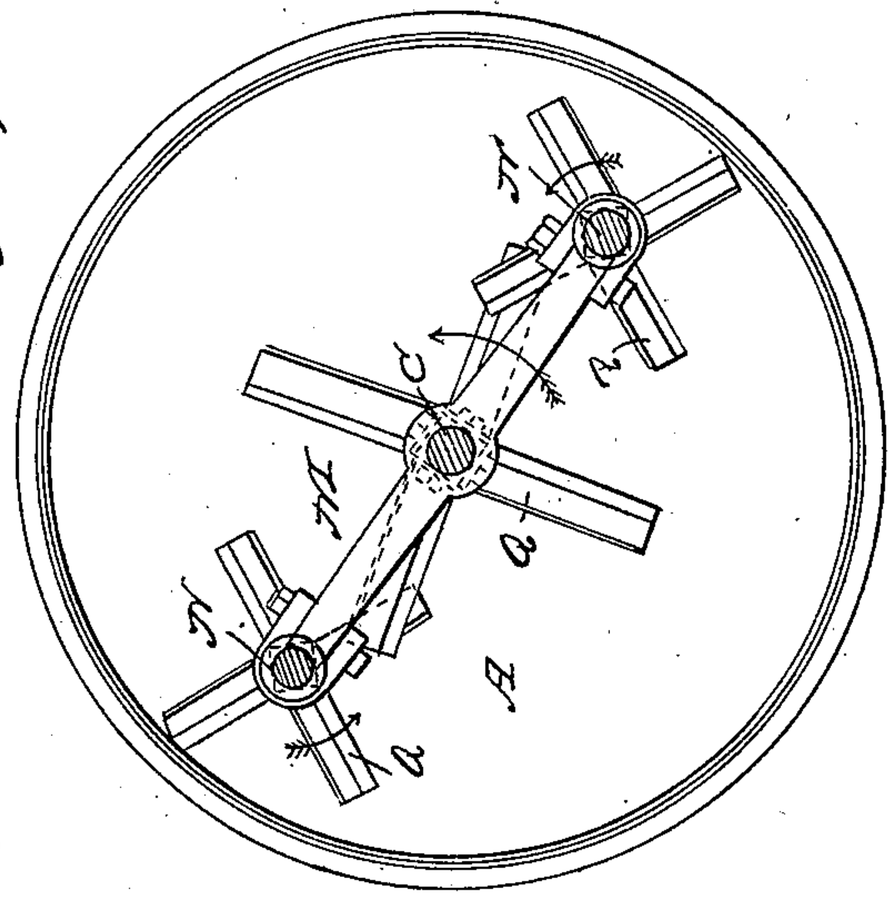
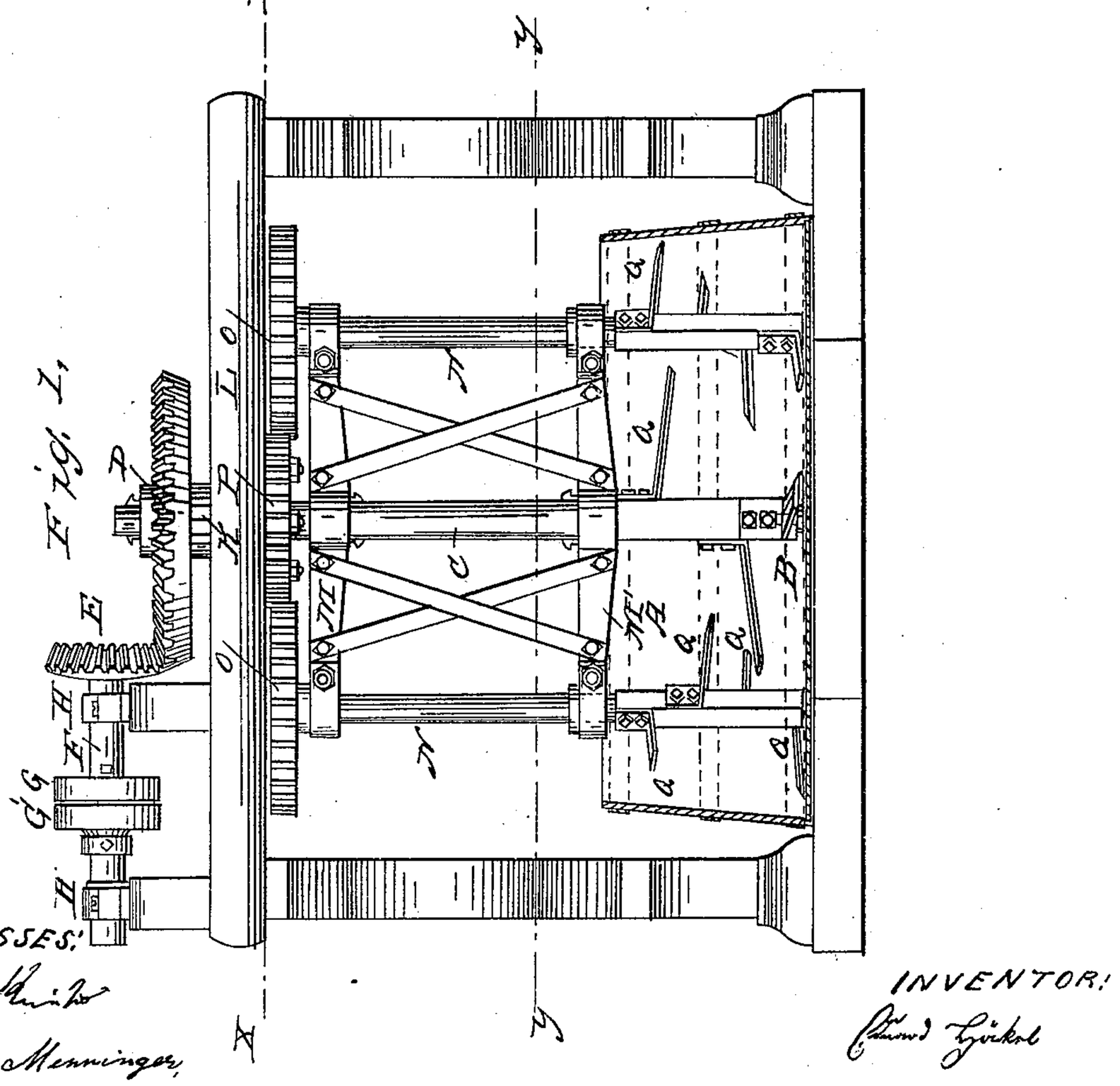


Fig. 3.





UNITED STATES PATENT OFFICE.

EDWARD HAECKEL, OF CINCINNATI, OHIO, ASSIGNOR TO HAECKEL & CO., OF SAME PLACE.

APPARATUS FOR MASHING.

Specification of Letters Patent No. 25,329, dated September 6, 1859.

To all whom it may concern:

Be it known that I, EDWARD HAECKEL, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Machines for Mashing Malt, &c., and do hereby declare the following to be a full and clear description thereof, reference being had to the accompanying drawings, making part of this specification.

This invention consists in the attachment to the common central beater shaft in malt mashing tubs (or beating or mixing machines for other purposes) of attendant "satellite" beater shafts, for the purpose of effecting a more uniform, speedy, and complete mashing, stirring, or mixing of the material in which they operate.

In the accompanying drawings, Figure 1 is an elevation of the machine with the tub in section. Figs. 2 and 3 are horizontal sections at *x x* and *y y* respectively.

A is a mashing tub of usual construction fitted at the center with a step B to support the vertical beater shaft C as shown. The shaft C has keyed on its upper extremity a bevel driving wheel D made to gear into a wheel E on the horizontal shaft F which is fitted with fast and loose running pulleys G G′ and supported on pillow blocks H. The shaft C is journaled in the box K bolted to cross piece L which may represent the joist of a building or other support.

M M′ are arms keyed to the shaft C and carrying satellite shafts N. A stationary spur wheel P is bolted as shown to the cross piece L concentrically with the shaft C and gears into driving wheels O on the satellite shafts. Upon the shaft F being set in motion the central shaft C is rotated upon its axis carrying with it the arms M M′ and thus causing the satellite shafts to revolve around it as a center while the driving wheels O by gearing into the stationary spur wheel P impart to the satellite shafts a simultaneous rotary motion on their axes. The relative speeds of the shafts may be varied at pleasure or to suit the work, by a change of wheels, the proportion here illustrated being found most satisfactory for mashing malt. Below the arm M′ the shafts C and N are square and to each are firmly bolted, beaters Q so constructed as to overlap or cross each other. The beaters are thinned somewhat on their advancing edge, and set at an angle with the horizontal plane in both directions as shown to operate with better effect in separating and stirring.

Any other more convenient or approved mode of driving the shaft C than the one described may be adopted.

I claim as new and of my invention herein and desire to secure by Letters Patent.

The described combination and arrangement of the central shaft C and satellite shafts N the whole being armed with beaters Q and rotated simultaneously substantially in the manner and for the purpose set forth.

In testimony of which invention, I hereunto set my hand.

EDWARD HAECKEL.

Witnesses:

GEO. H. KNIGHT,

AUGUSTUS MENNINGER.