

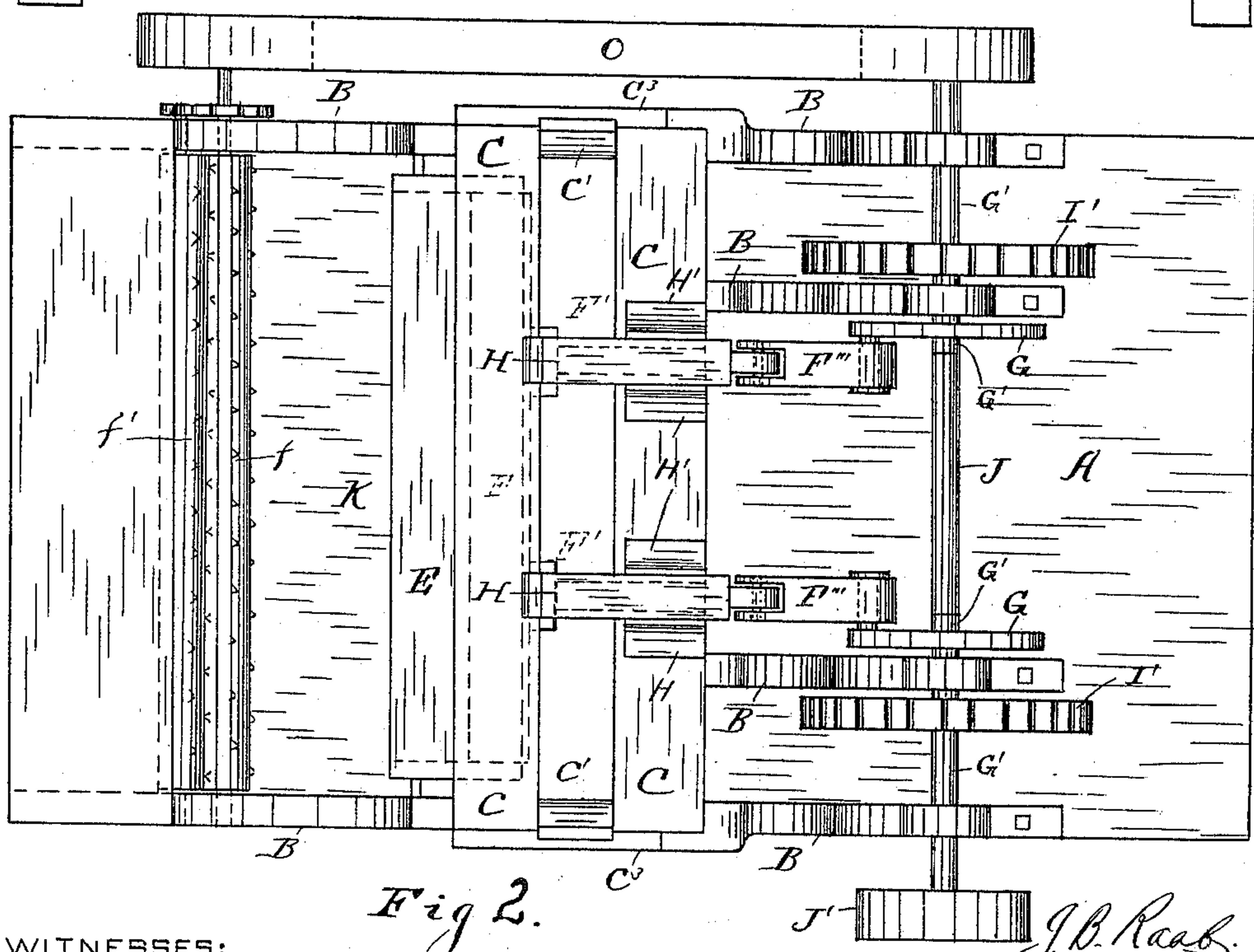
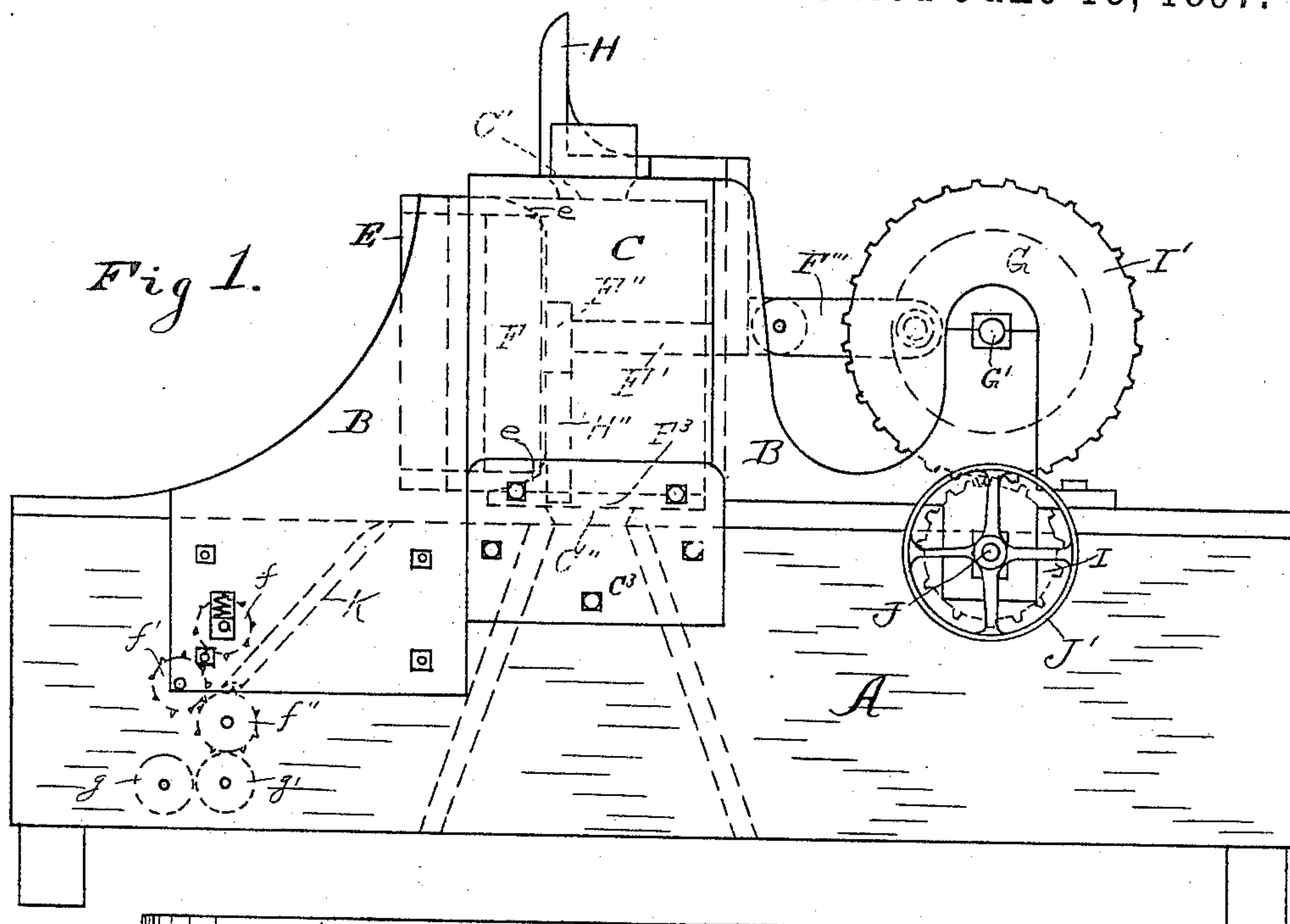
(No Model.)

2 Sheets—Sheet 1.

J. B. RAAB.
OIL CAKE TRIMMER.

No. 584,401.

Patented June 15, 1897.



WITNESSES:

L. L. Allen
Wm J Whitney

J. B. Raab.

INVENTOR:

By R. J. M. Carty

ATTORNEY:

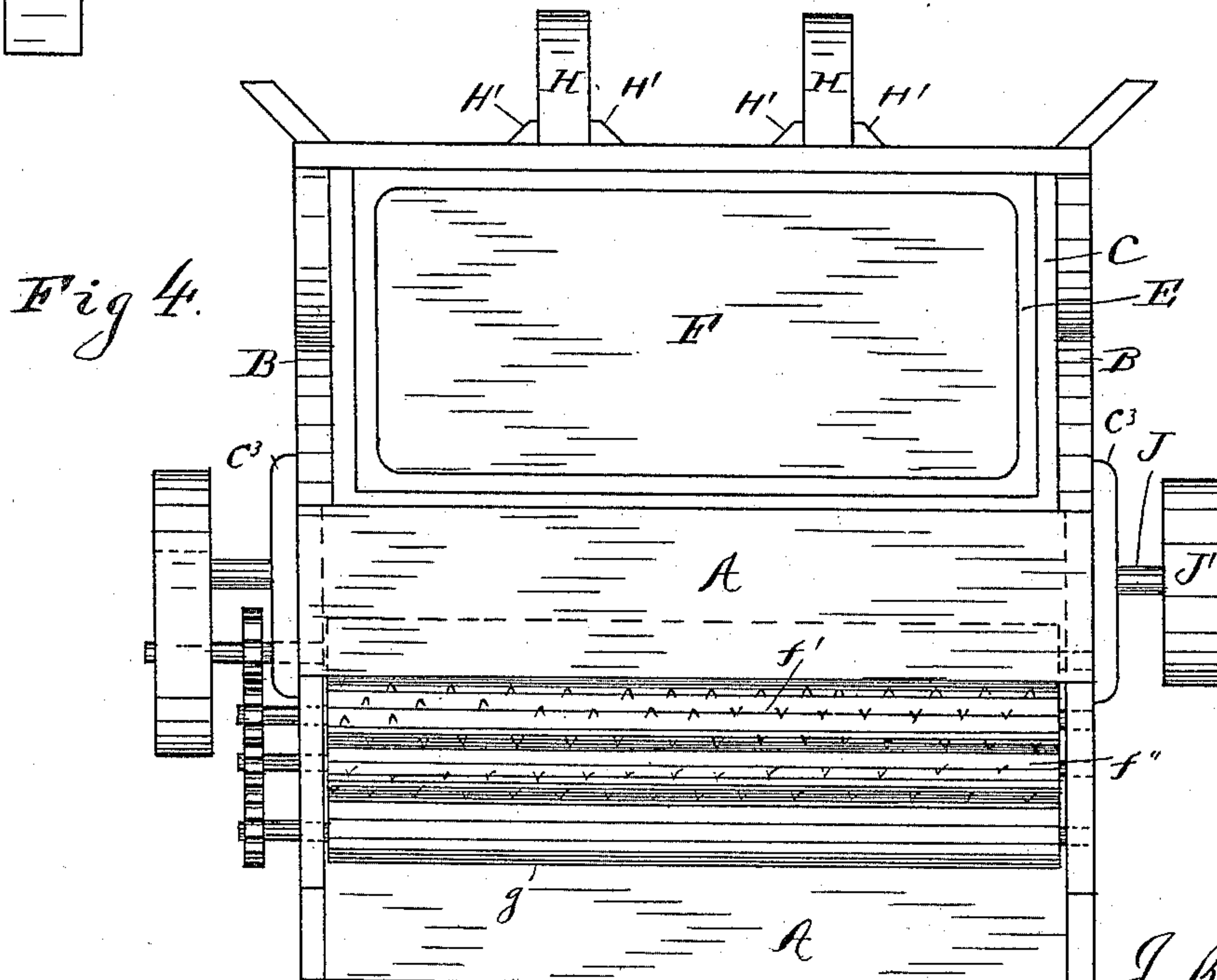
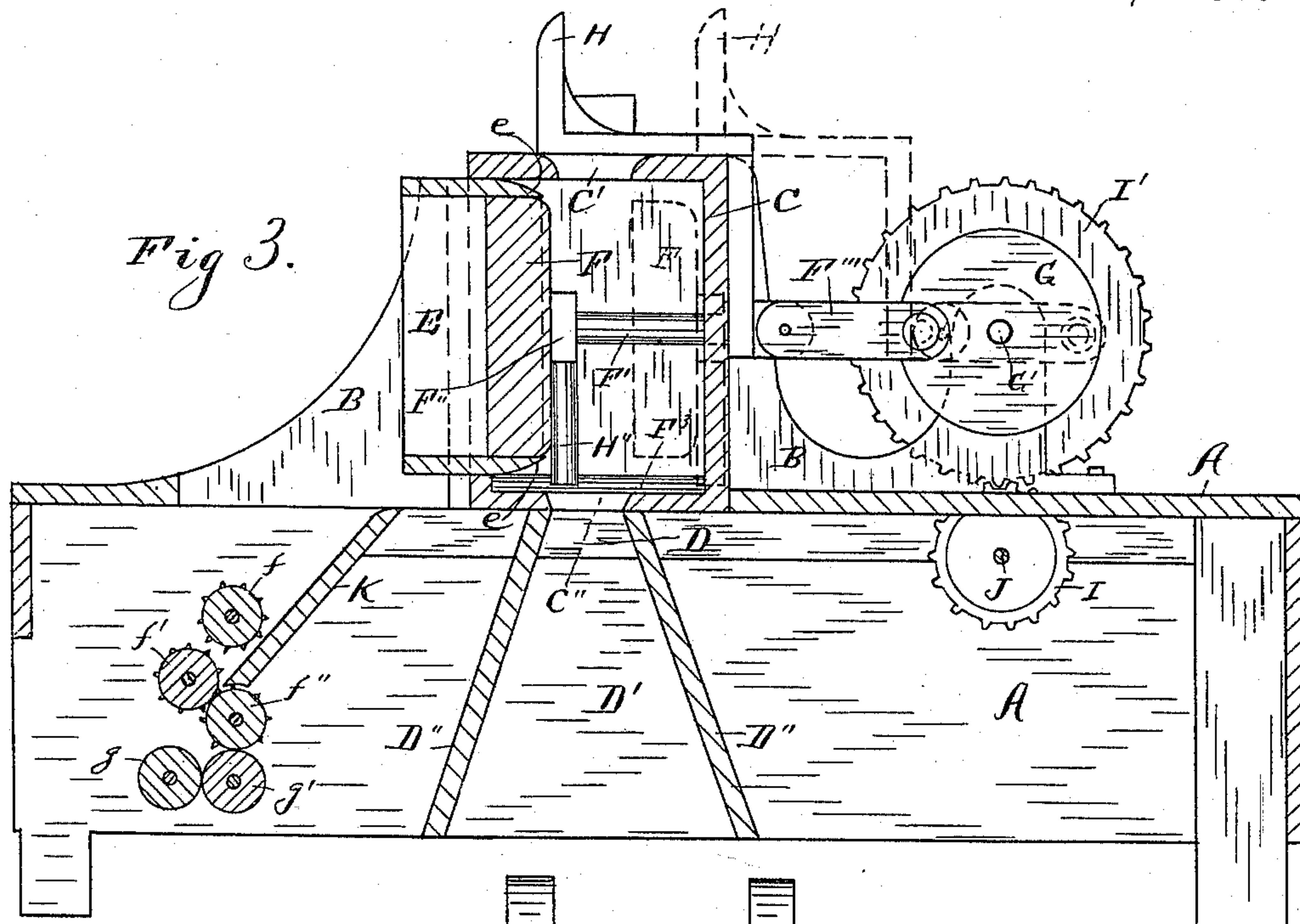
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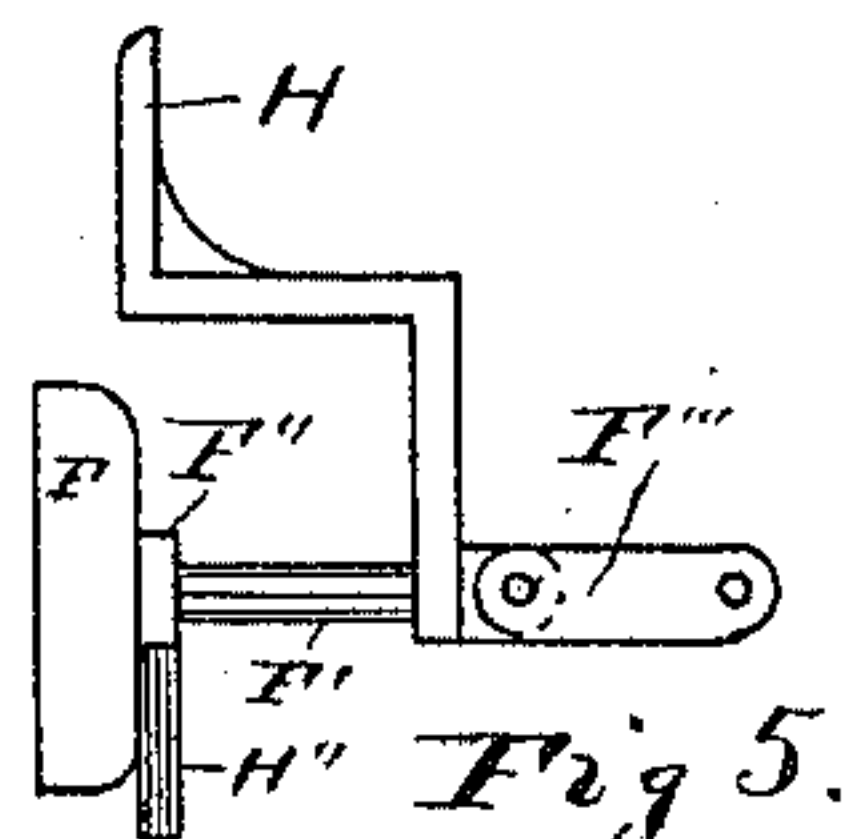
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WITNESSES:

L. L. Allen

Wm. P. Whitney



J. B. Raab

INVENTOR:

By R. J. McCarty
his ATTORNEY:

UNITED STATES PATENT OFFICE.

JOHN B. RAAB, OF DAYTON, OHIO, ASSIGNOR OF TWO-THIRDS TO J. T. WESSALOSKY AND J. A. WESSALOSKY, OF SAME PLACE.

OIL-CAKE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 584,401, dated June 15, 1897.

Application filed April 9, 1897. Serial No. 631,398. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. RAAB, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Oil-Cake Shavers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a machine for shaving the edges of oil-cake after said cake comes from the press.

As preliminary to the specification and as an aid to a correct understanding and appreciation of my invention I will briefly outline the method heretofore common in performing the work that this invention is designed to perform in a vastly more satisfactory manner. The oil-press, which is a well-known means for extracting the oil from linseed, cotton-seed, and other oil-containing products, in its operation of extracting the oil compresses the seed into a cake, the oil being removed therefrom by the pressure. In this operation of compression more or less of the oil is forced into the outer edges of the cake, where it remains. It is desirable to reclaim this oil to be again passed through the press with other seed or substance. This operation of removing the edges of the cake is done by manual labor and requires the cake to be taken hold of by the hands and moved against the edge of a stationary planer as many times as there are edges to the cake, and it frequently becomes necessary to pass the same edge of the cake over the planer two or more times. This hand operation is slow and tedious and has other disadvantages. Owing to the exceedingly-heated condition of the cake when it comes from the press, it is very severe on the hands of the operator, and it is difficult to retain labor for this work for any length of time. The object, therefore, of this invention is to provide a machine for such work which has a capacity for doing the

work much quicker and dispenses with the necessity of handling the cake manually.

To these ends the invention consists of parts, their construction and arrangement, all as will appear from the following description, taken in connection with the accompanying drawings, of which—

Figure 1 is a side elevation of my machine. Fig. 2 is a top plan view. Fig. 3 is a longitudinal mid-sectional view. Fig. 4 is a front elevation. Fig. 5 is a detached side elevation of the plunger.

Throughout the specification similar letters of reference indicate corresponding parts.

The base or lower frame A of the machine is preferably constructed of timber. The upper frame B, which provides the bearings, is preferably constructed of metal, substantially as shown in the drawings, or any variation therefrom that may be deemed desirable.

C designates an oblong rectangular box or casing, of metal, occupying a transverse position on the frame and having a longitudinal flaring mouth C'. C'' is a longitudinal opening in the floor of said box, communicating with an opening D in the top of the lower frame or base portion. This opening D communicates with a flaring space D', inclosed by two slanting walls D'' D''. The oil-containing edges of the cakes when they are removed fall through these openings into a convenient place to be carried from the machine for further treatment.

E designates an oblong rectangular frame constructed of metal with its vertical sides entirely open and its horizontal and vertical edges e e e e formed into knife-edges with rounded corners and projecting inwardly on the machine. This frame is rigidly mounted in the casing C substantially in the position shown clearly in Fig. 3.

F designates a reciprocating plunger movable horizontally in the casing C and in and out of the frame E back and forth across the openings C' and C''. This plunger has rigidly connected to its rear side two horizontal arms F' F', that project from bosses F'' rearwardly through guide-openings in the rear vertical wall of the casing C and are flexibly connected to two links F''' F''', which are flexi-

bly connected to eccentrics G G. The latter are rigidly mounted on the two short shafts G' G', which are journaled in the upright parts of the metallic frame.

5 The plunger E is properly guided in its reciprocating movement by two upper angular arms H H, which project from the arms F' F' on the outer side of the case C and reach over the top of said case. The horizontal portions
10 of these arms H H are inclosed between guides H' H' on the upper side of the case. When said arms are projected over the opening C' on the outer movement of the plunger F, the said opening is closed against any entrance of
15 cake at an improper time. The lower guides for said plunger consist of two downwardly-projecting arms H'' H'', that project from the bosses F'' F'' and rest upon rounded tracks F³ F³ in the bottom of the case C. The lower
20 ends of the arms H'' H'' are hollowed out to fit over the tracks F³ F³. The plunger is shown in full and broken lines in Fig. 3 to indicate the limit of its inward and outward movements. These movements are obtained by
25 driving the shafts G' G', which is done through the following gearing. I' I' designate two spur-wheels keyed to said shafts.

I I are two smaller spur-wheels on the main driving-shaft J below the wheels I' I' and
30 meshing therewith. The main shaft J is driven from a line-shaft by a belt which incloses a main drive-pulley J'.

When the plunger is in its inmost position, as shown in broken lines in Fig. 3, the cake
35 is fed into the opening C' to a position in front of said plunger, where it rests upon the tracks F³ F³. The outward movement of the plunger pushes the cake forward into the frame E. The cake being somewhat larger than the
40 frame the edges of said cake, which contain a quantity of oil, are cut off by coming in contact with the knife-edges *e e*. The edges thus cut off fall downwardly through the lower opening C''. The next succeeding cake that
45 is forced into the frame E by the plunger dislodges the cake that was previously forced therein, and the said dislodged cake is received by an incline K, down which it descends to a series of reducing-rollers. These reduc-
50 ing-rollers consist of three toothed rollers *f f'* *f''* and two smooth rollers *g g'*. The toothed rollers grind the cake or reduce it to a state of granulation, after which the smooth rollers operate to further reduce it to a fine state
55 for various uses.

The roller *f* is driven from the main driving-shaft J by means of a belt O, and from said roller *f* the remaining rollers are actuated by a train of gears. The casing C is rigidly
60 mounted between two side plates C³ C³, which are bolted thereto and to the frame.

Having described my invention, I claim—

1. In a machine for shaving the edges of oil-cake, the combination with a frame, of a

case mounted thereon and provided with longitudinal openings in its upper and lower sides, a frame provided with a knife-edge rigidly mounted in said case, and a reciprocating plunger in said case movable in and out of said frame, and adapted to force oil-cake into said frame, whereby the edges of the cake are severed, substantially as described.

2. In a machine for shaving the edges of oil-cake, the combination with a supporting-frame, of an oblong rectangular case mounted across said frame, the said case being provided with a longitudinal opening in its upper side through which the oil-cake is fed, and a similar opening in its bottom through which the severed edges of the oil-cake pass from the machine, a rectangular open frame rigidly mounted in said case, the inner or inclosed edge of said frame being of a knife-edge form, a reciprocating plunger movable in said case in line with said knife-edge frame, and means for supporting the oil-cake in a proper position in front of the plunger, substantially as described.

3. In a machine for shaving the edges of oil-cake, the combination with a supporting-frame, of a rectangular case mounted on said frame, the said case having longitudinal openings in its upper and lower sides, a knife-edge frame mounted in the front portion of said case, a reciprocating plunger movable in said frame and adapted to sever the edges of the oil-cake as the said cake is forced into the frame, and guides to direct an even movement of said plunger, substantially as described.

4. In a machine for shaving the edges of oil-cake, the combination with a supporting-frame, of a reciprocating plunger, a case in which said plunger moves, and in which the oil-cake is supported in front of the plunger, a knife-edge frame mounted in said case in the front of the plunger, eccentrics, flexible connections between said eccentrics and the plunger, and means for driving said eccentrics, substantially as described.

5. In a machine for shaving the edges from oil-cake, the combination with a frame, of a case mounted across said frame with openings therein, tracks lying across the lower one of said openings, a knife-edge frame mounted in said case, a reciprocating plunger adapted to force the oil-cake through said knife-edge frame, and to thereby sever the edges of the cake, and a series of reducing-rollers adapted to receive the cake from the knife-edge frame, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. RAAB.

Witnesses:

JULIUS WESSALASKY,
LEE MARKEY.