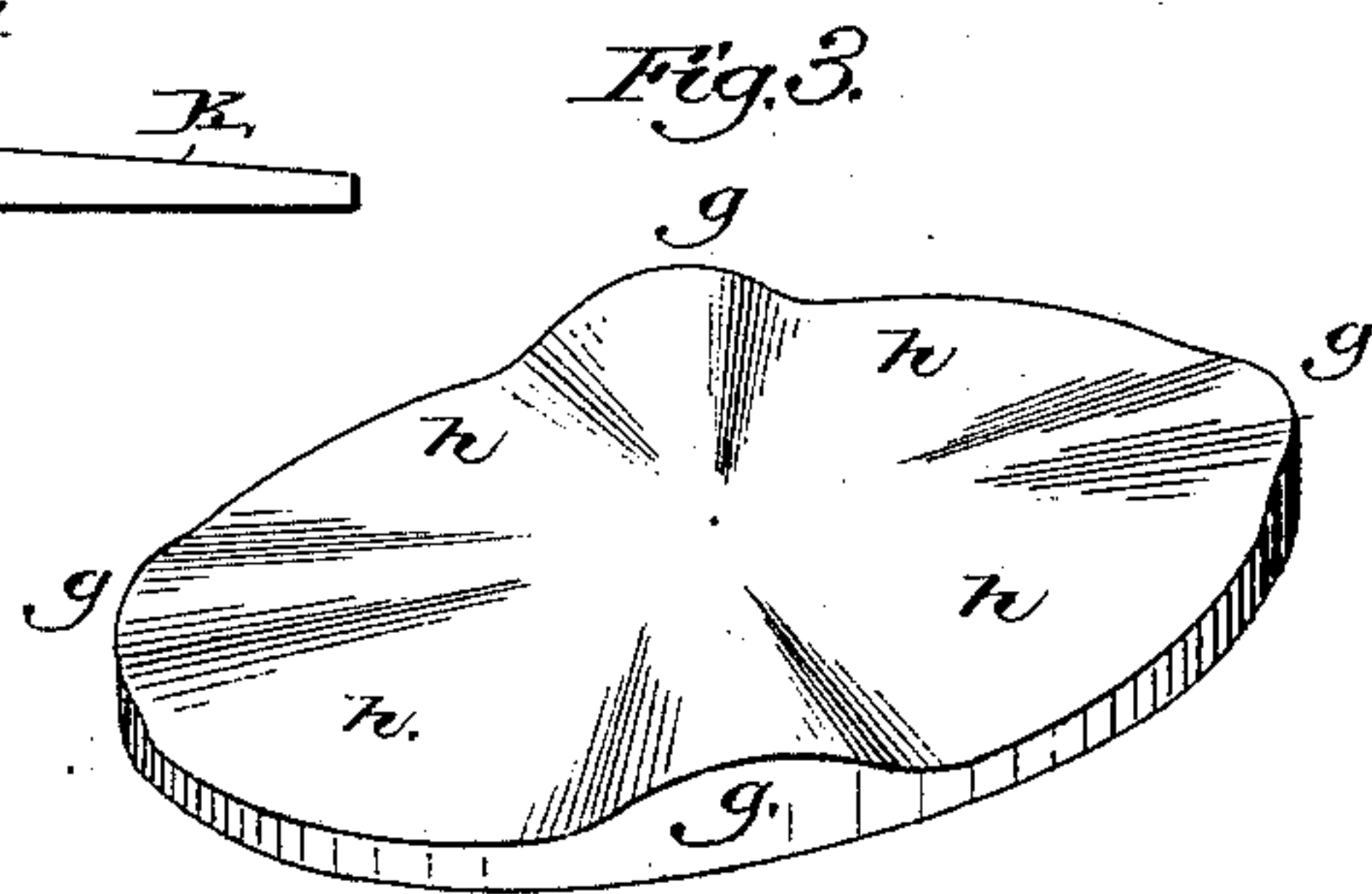
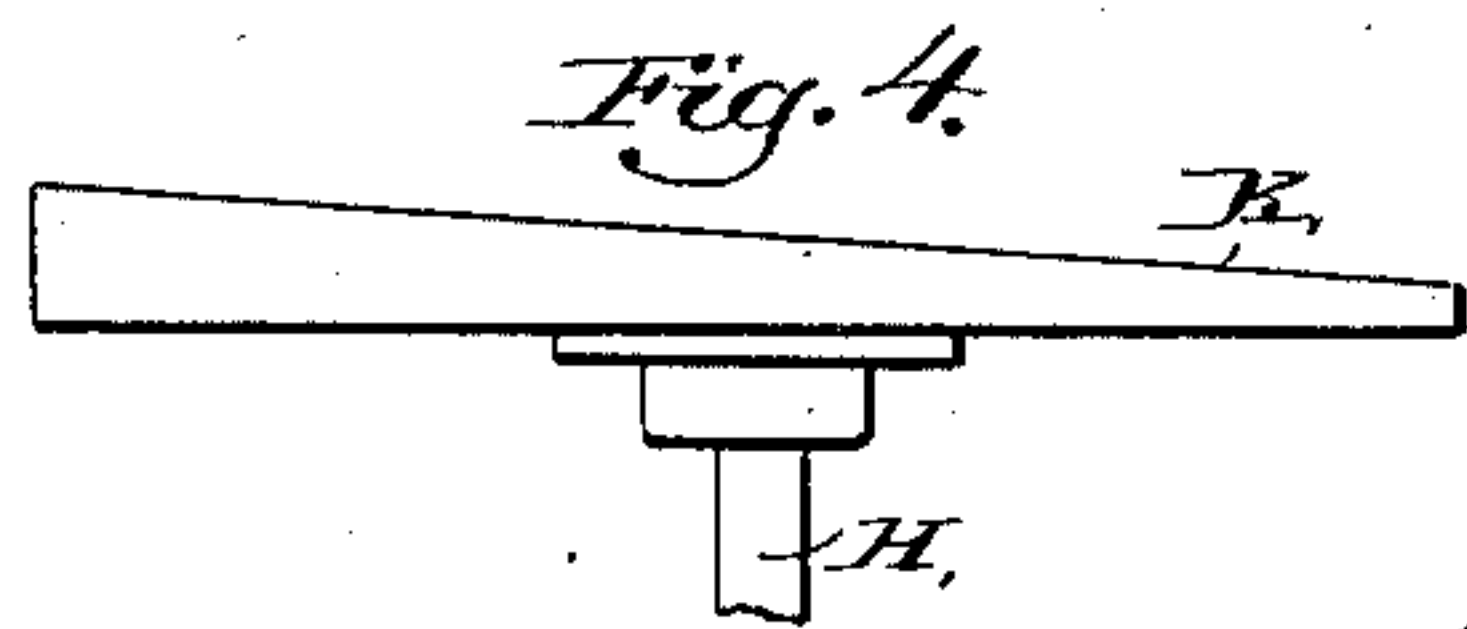
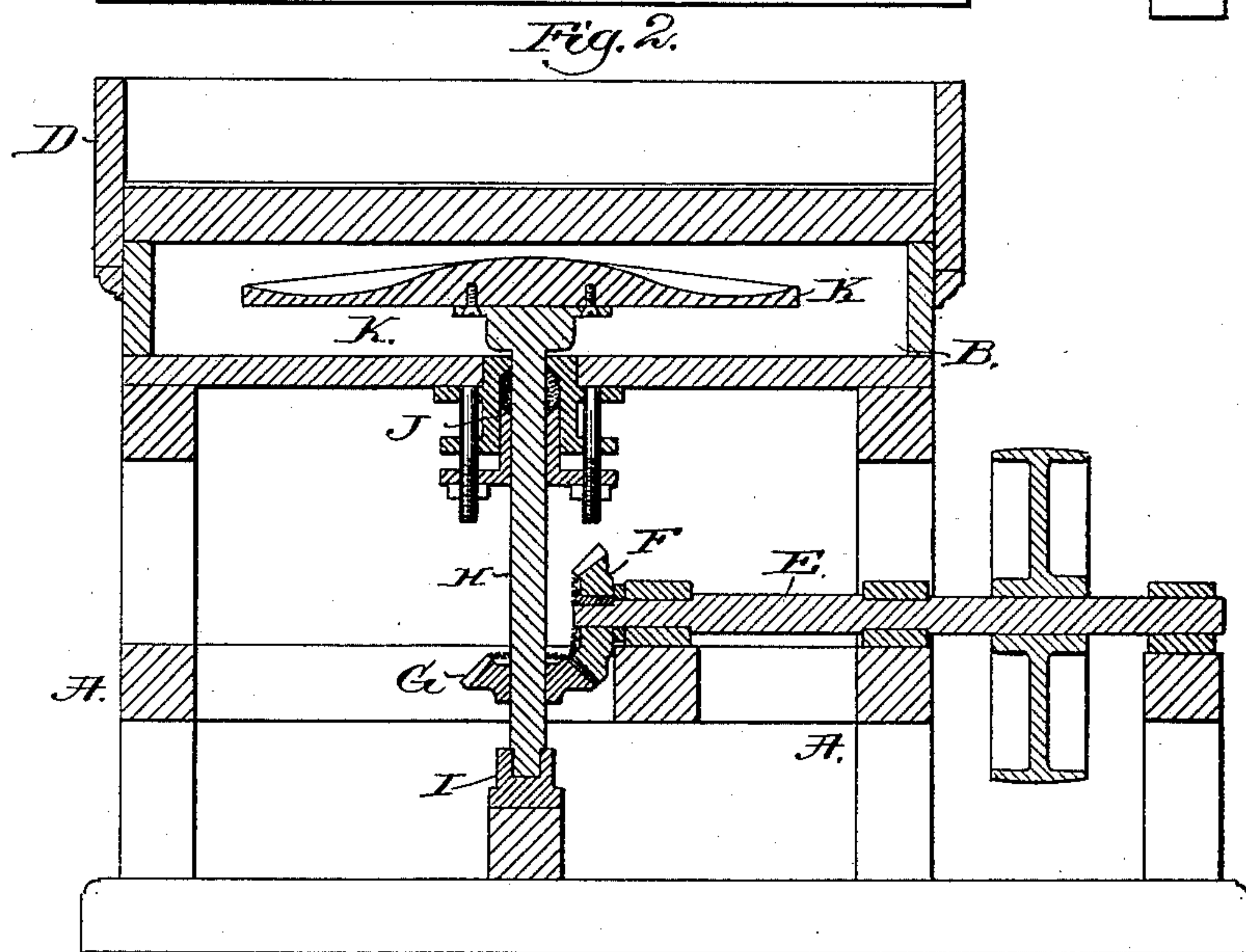
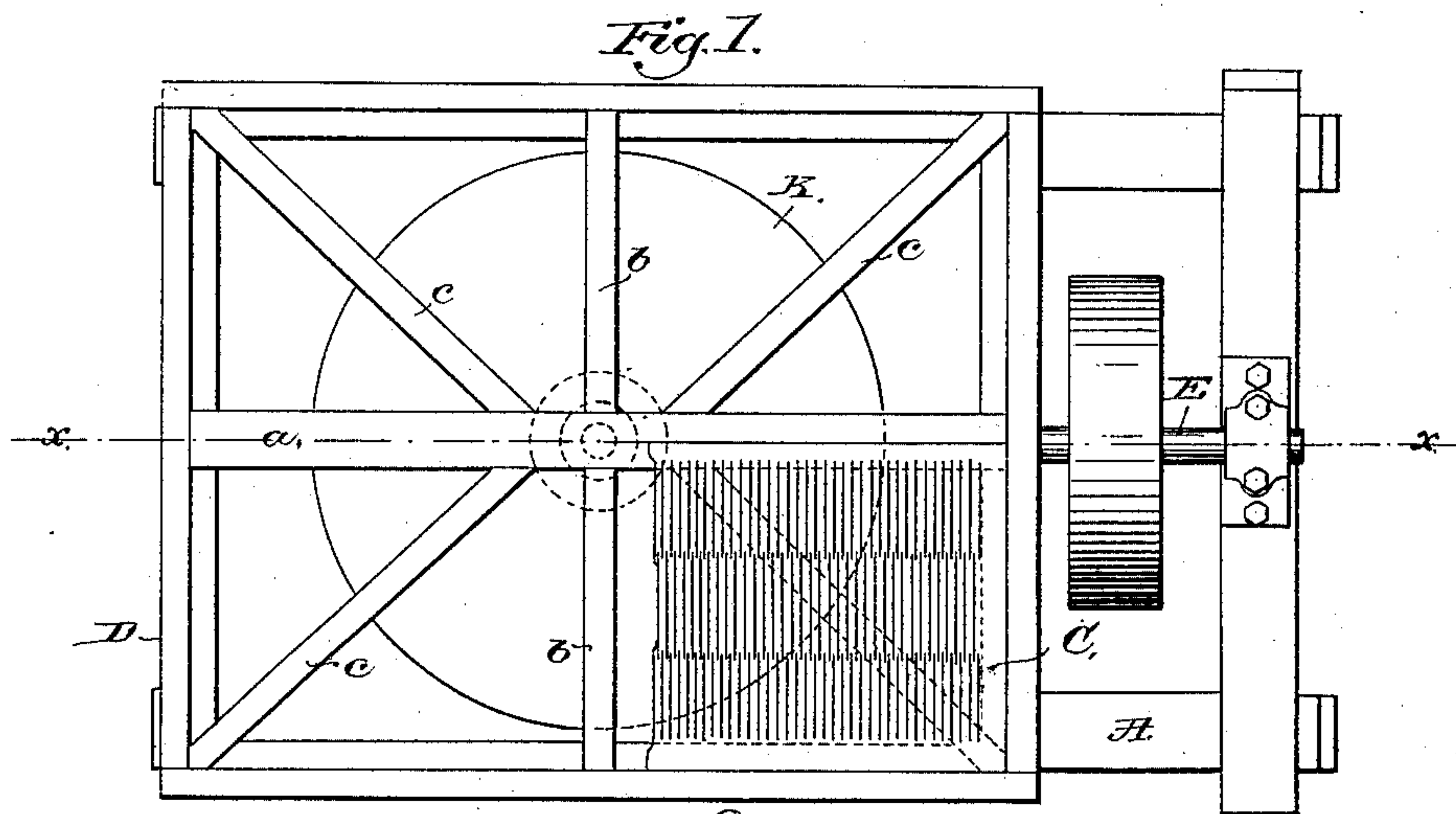


(No Model.)

R. L. HOWE.
PAPER PULP SCREEN.

No. 341,417.

Patented May 4, 1886.



Witnesses

John F. C. Pringle

And L. Emery.

Inventor

Robert L. Howe.

by Crosby & Gregory attys.

UNITED STATES PATENT OFFICE.

ROBERT L. HOWE, OF CUMBERLAND MILLS, MAINE, ASSIGNOR TO THE
S. D. WARREN & COMPANY, OF BOSTON, MASSACHUSETTS.

PAPER-PULP SCREEN.

SPECIFICATION forming part of Letters Patent No. 341,417, dated May 4, 1886.

Application filed February 27, 1886. Serial No. 193,441. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. HOWE, of Cumberland Mills, county of Cumberland, and State of Maine, have invented an Improvement in Paper-Pulp Screens, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction and hasten the operation of pulp-screens.

Pulp-screens as now made are supported above boxes from which the air is partially exhausted. To do away with an exhaust and yet hasten the flow of the pulp through the slits of the screen, I have provided the box below the screen with a rotating disk, the surface of which is so shaped or set out of parallelism with the screen that the disk revolving in the box below the screen causes the air in the box to be forced up and down therein.

My invention consists, essentially, in the combination, with a stationary pulp-screening plate and the box covered by it, of a rotating disk, substantially as will be hereinafter described, it moving in the air in the box just below the stationary screen.

Figure 1, in top view, represents a sufficient portion of a pulp-screen to enable my invention to be understood, the screen-plate being partially omitted to show the agitator beneath it; Fig. 2, a section of Fig. 1 in the dotted line *x*, and Figs. 3 and 4 a modified form of air-agitator.

The frame-work A, at its upper portion, has a box, B, in which the pulp enters through the slits of the stationary metallic screen-plates C, of usual construction, the plates being supported on the usual timbers, *a b c*, the screen being in a box, D, into which runs the half-stuff, which, after passing through the screen into the box B, constitutes the material of the pulp which is to be made into paper.

As so far described, the apparatus is substantially as common.

The frame-work has suitable boxes for the shaft E, on which is a bevel-gear, F, that en-

gages a bevel-gear, G, on the spindle H, having its step at I. The spindle is extended through a stuffing-box, J, and the upper end of the spindle in the box B has attached to it a disk, K, which is so shaped with relation to the under side of the screen-plate that the disk in its movement of rotation beats on or agitates the air in the box B, causing a variation of pressure therein which is constantly changing, such variation of pressure acting upward and downward below the screen-plate, keeping the slits therein from becoming clogged, thus facilitating the uniform or equal flow of pulp through the slits of the screen-plate.

In Figs. 1 and 2 the disk K is shown thickest at its center, and from this point it gradually diminishes in thickness toward the circumference; but near the said circumference the said disk increases slightly in thickness, so that the upper face of said disk is out of parallelism with the under side of the screen-plate, and as the spindle revolves the irregular face of the disk imparts an undulatory motion to the air below the screen-plate, which undulation causes such a disturbance of air-pressure in the box B as to keep the slits in the screen-plate from clogging up.

As a modification, the disk may be made as shown in Fig. 3, wherein *g* designates raised portions, and *h* valleys between, the said raised portions and valleys causing the requisite variations in the air-pressure in the box B below the stationary screen C, thus preventing the slits from becoming clogged; or, as shown in Fig. 4, said disk may have its upper face inclined, so as to form a disk trapezoidal in cross-section.

I claim—

1. In a pulp-screen, the screen-plate C, having a box, B, beneath it, combined with the vertical spindle and its attached rotating disk, the whole or a part of the face of which below the screen-plate occupies a position which is not parallel with the bottom of the said screen-plate, substantially as described.

2. In a pulp-screen, the screen-plate having a box, B, beneath it, combined with the

vertical spindle and its attached rotating disk,
the whole or a part of the face of which be-
low the screen-plate occupies a position which
is not parallel with the bottom of said screen-
5 plate, while the bottom of said disk is paral-
lel to the bottom of the screen-plate, substan-
tially as described.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

ROBERT L. HOWE.

Witnesses:

AMANDALL BARBOUR,
SAMUEL M. SHEHAN.