

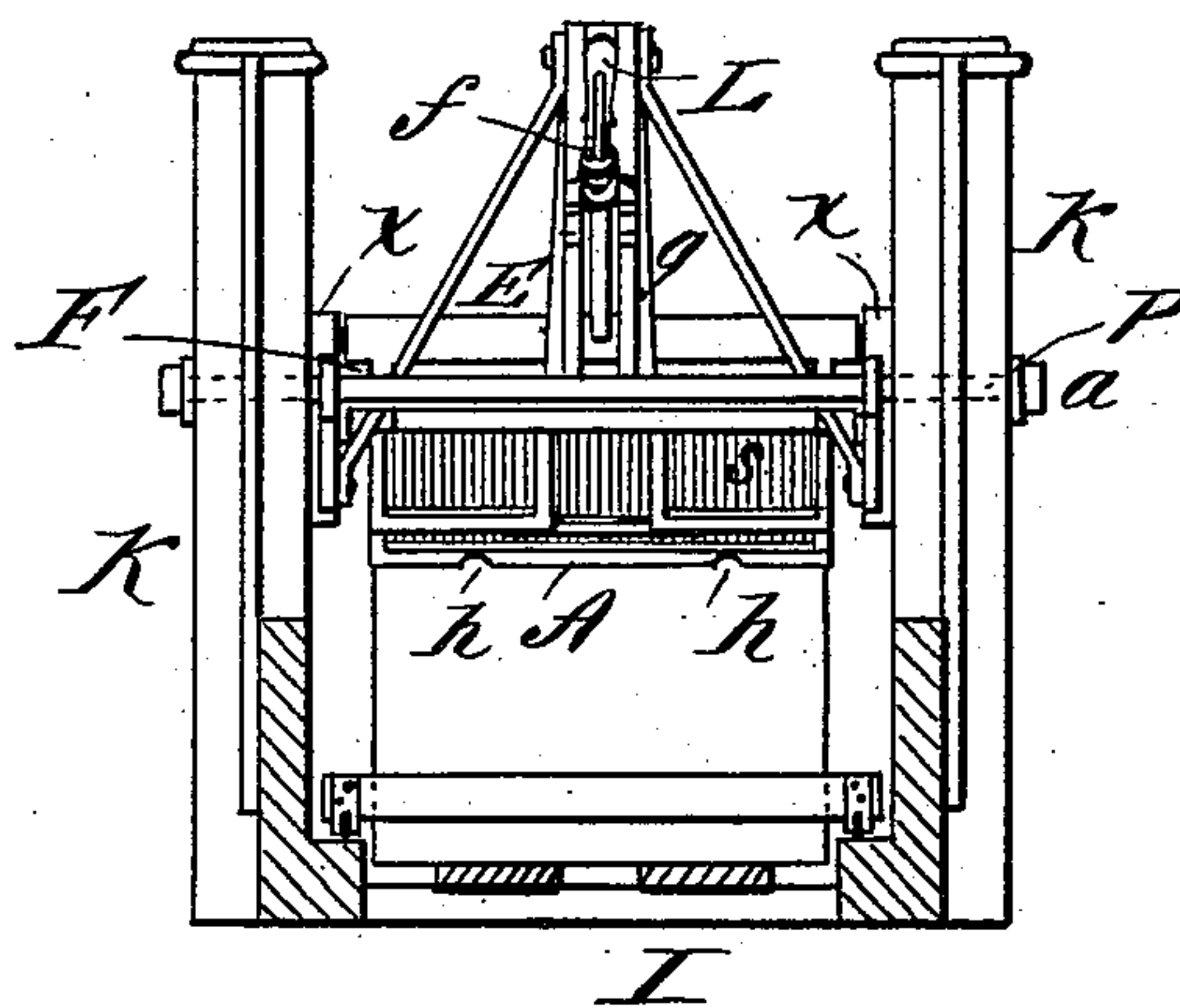
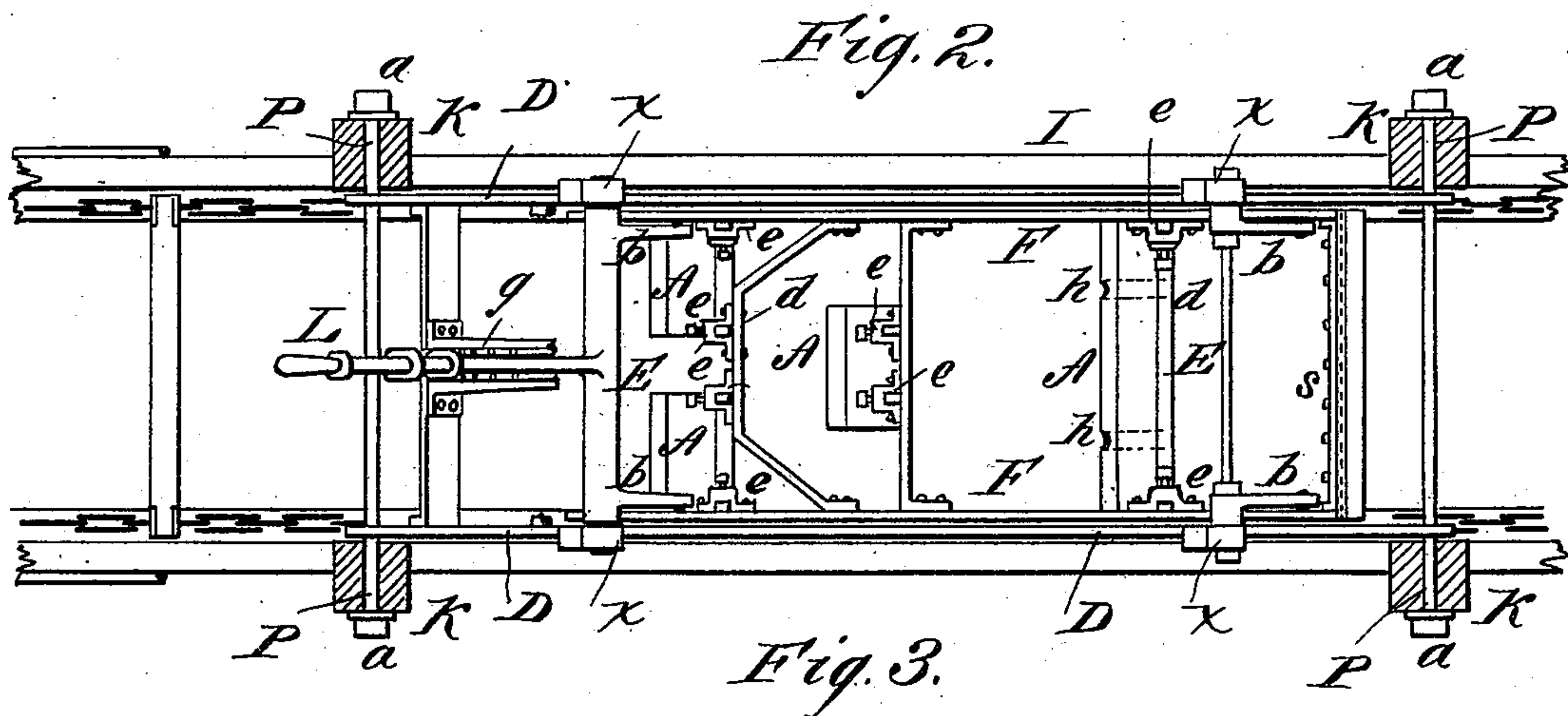
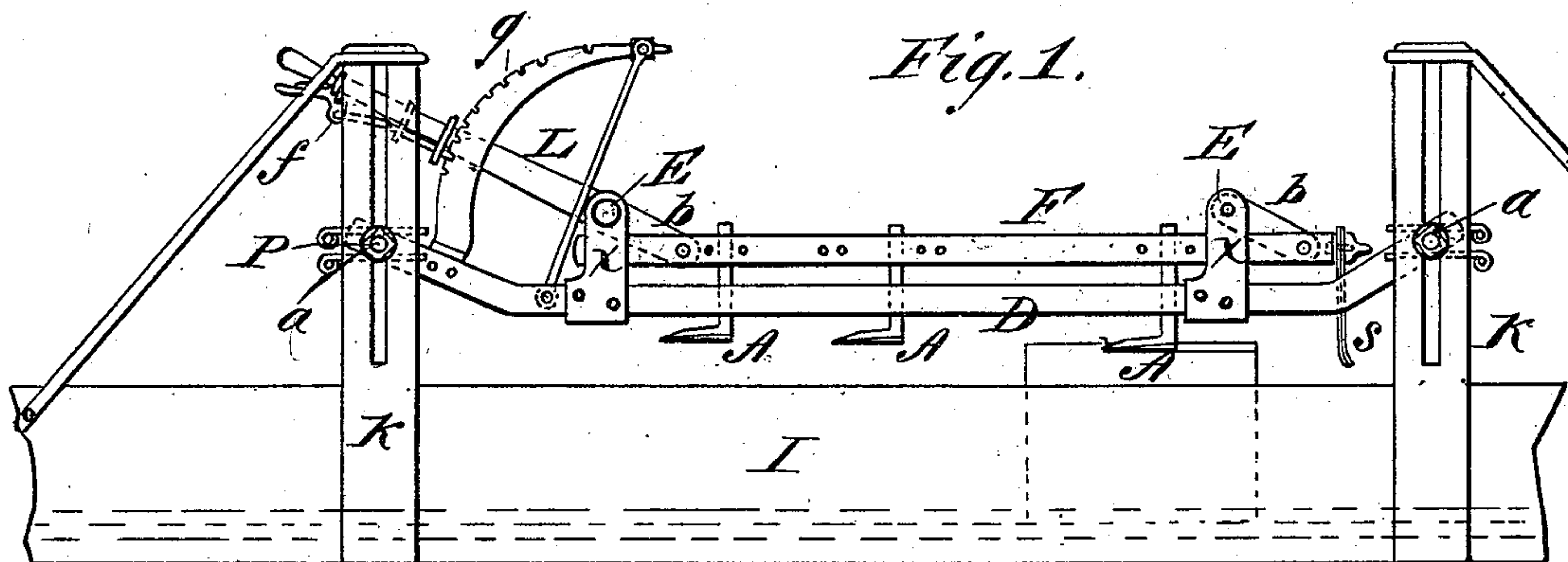
(No Model.)

S. L. SMITH.

STATIONARY AUTOMATIC ICE PLANING AND RIDGING MACHINE.

No. 310,093.

Patented Dec. 30, 1884.



WITNESSES:

Dom Twitchell.
C. Sedgwick

INVENTOR:

S. L. Smith
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

STEPHEN L. SMITH, OF ST. LOUIS, MISSOURI.

STATIONARY AUTOMATIC ICE PLANING AND RIDGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 310,093, dated December 30, 1884.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN L. SMITH, of St. Louis, Missouri, have invented a new and Improved Ice Planing and Ridging Machine, of which the following is a full, clear, and exact description.

My improvements relate to machines for cutting off snow, slush, and other useless portions from the top of cakes of ice preparatory to housing them, and also for ridging the cakes to prevent them from freezing together when so packed.

This invention consists in the combination of supporting-bars, knives, and brooms with the slideway over or through which the ice-cakes are moved to the packing-houses, and also in means for adjustment of the parts named, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine shown as applied to an ice chute or slide. Fig. 2 is a plan view of the same, partly sectional; and Fig. 3 is a vertical transverse section.

The chute or slide I is of the ordinary construction, and will be provided, as usual, with the endless-chain drag for moving the cakes of ice forward. At the place on the chute where it is most convenient to operate the planer, four posts, K, are rigidly attached to the sides of the chute, and these posts are slotted vertically to receive the arms B, projecting from side bars, D D, that extend lengthwise of the chute at each side. On the ends of the arms B are nuts *a*, whereby the bars can be clamped at the desired height. Near the ends of the bars D are brackets *x x*, that carry cross-shafts E E, which have arms *b*, and on these arms are hung bars F, connected by cross-braces *d*, that carry the knives or cutters A. The blade portion of the knives project back horizontally, while their vertical tongues or shanks pass through sockets *e* on braces *d*, in which they are clamped by set-screws, so that the knives can be set up and down. The rear cross-shaft, E, is provided with an arm or lever, L, that is provided with

a trip, *f*, for engaging notches in a curved plate, *g*, that is attached rigidly to a cross-brace connecting the side bars, D, so that by movement of the lever the shafts E are rocked in their bearings, and the bars F with the knives thus easily and quickly adjusted according to the thickness of the ice cakes. The knives are set to cut deeper progressively, and the last knife is formed with two notches, *h*, and grooves in its cutting-edge and under surface. On the extreme forward ends of the bars F a brush, *s*, of suitable material, is attached, in position for sweeping the surface of the cakes as they leave the machine.

In the operation of the machine the cakes of ice carried forward in the chute have their upper surfaces cut or cleaned off to the desired depth, and also formed with two ridges. These ridges prevent the cakes from freezing together when packed in the house, and the expeditious removal of the cakes is thereby facilitated.

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

1. The combination, with an ice chute or slide, of the posts K, side bars, D, attached to the posts, and the bars F, supported by the side bars and carrying knives A, substantially as described.

2. In an ice-planer, the combination of the bars D, cross-shafts E, bars F, braces *d*, and knives A, substantially as shown and described.

3. In an ice-planer, the combination of the shafts E, bars F, and knives A, suspended from bars F, the lever L, and notched plate *g*, with the fixed supporting-bars D, substantially as described.

4. In an ice-planer, the combination of the knives or cutters A and brush *s* with the adjustable bars F and supporting side bars, D, substantially as described.

5. The cutter A, consisting of the horizontal blade provided with notches and grooves extending from the same across the under surface of the blade, and the vertical shank for securing the same in a suitable aperture in a frame, substantially as set forth.

STEPHEN L. SMITH.

Witnesses:

JNO. L. STUART,
GEORGE E. LEDRINA.