

No. 617,815

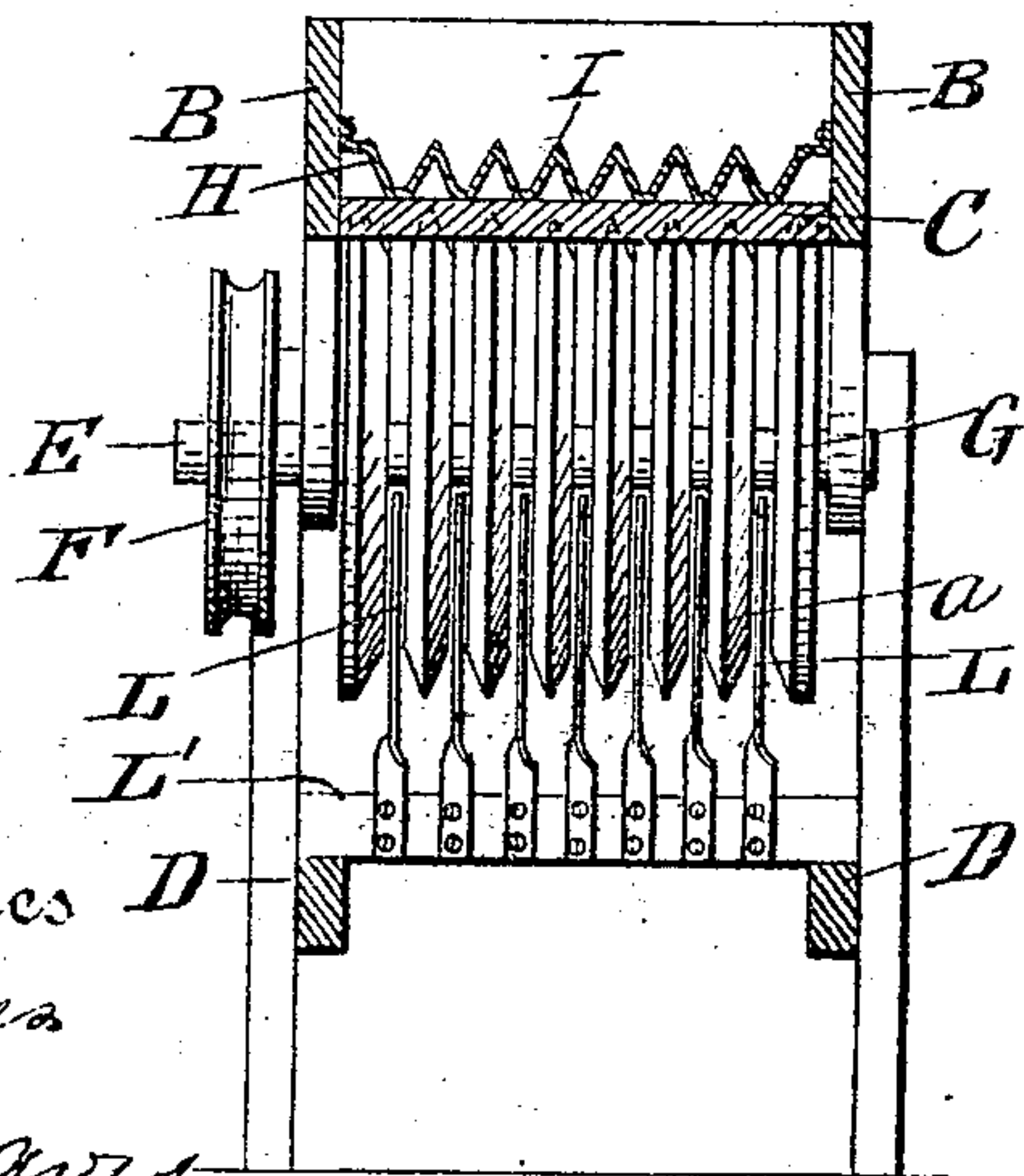
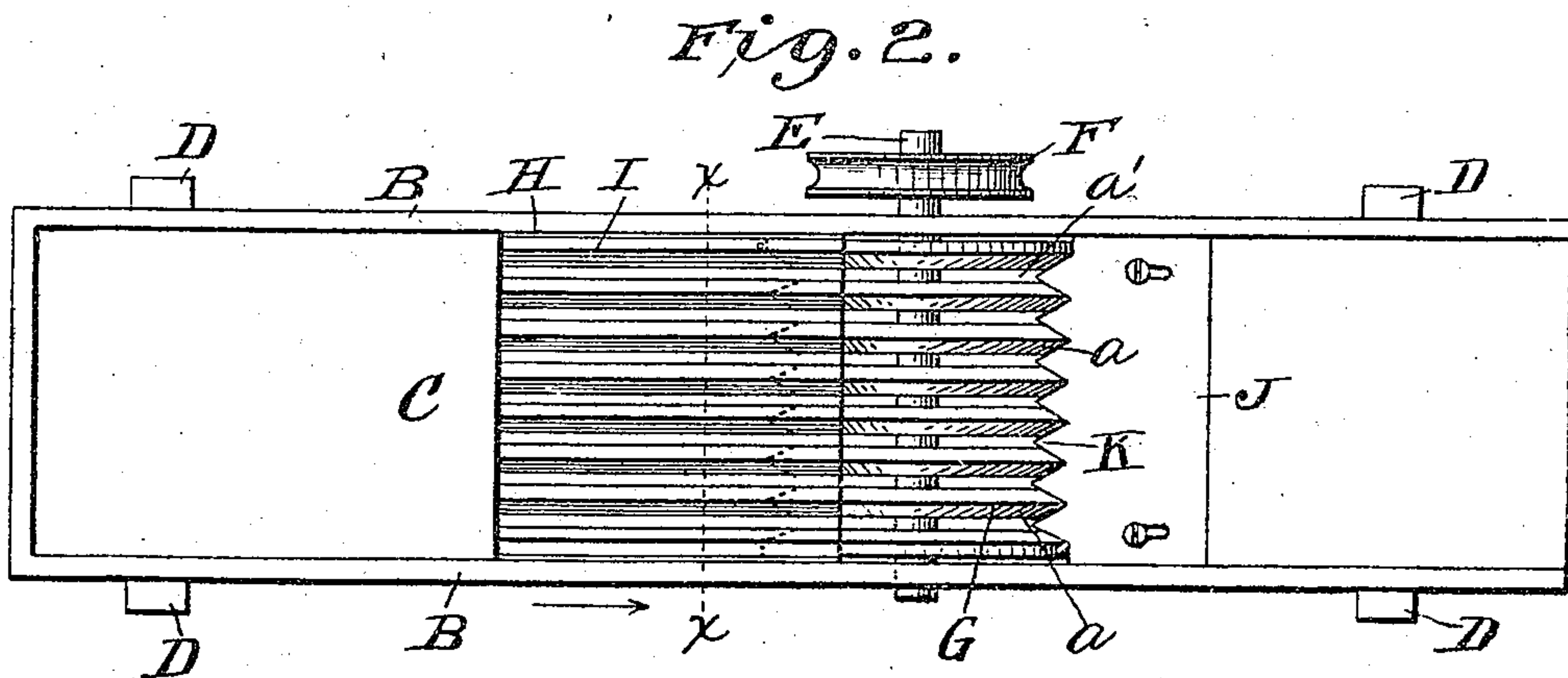
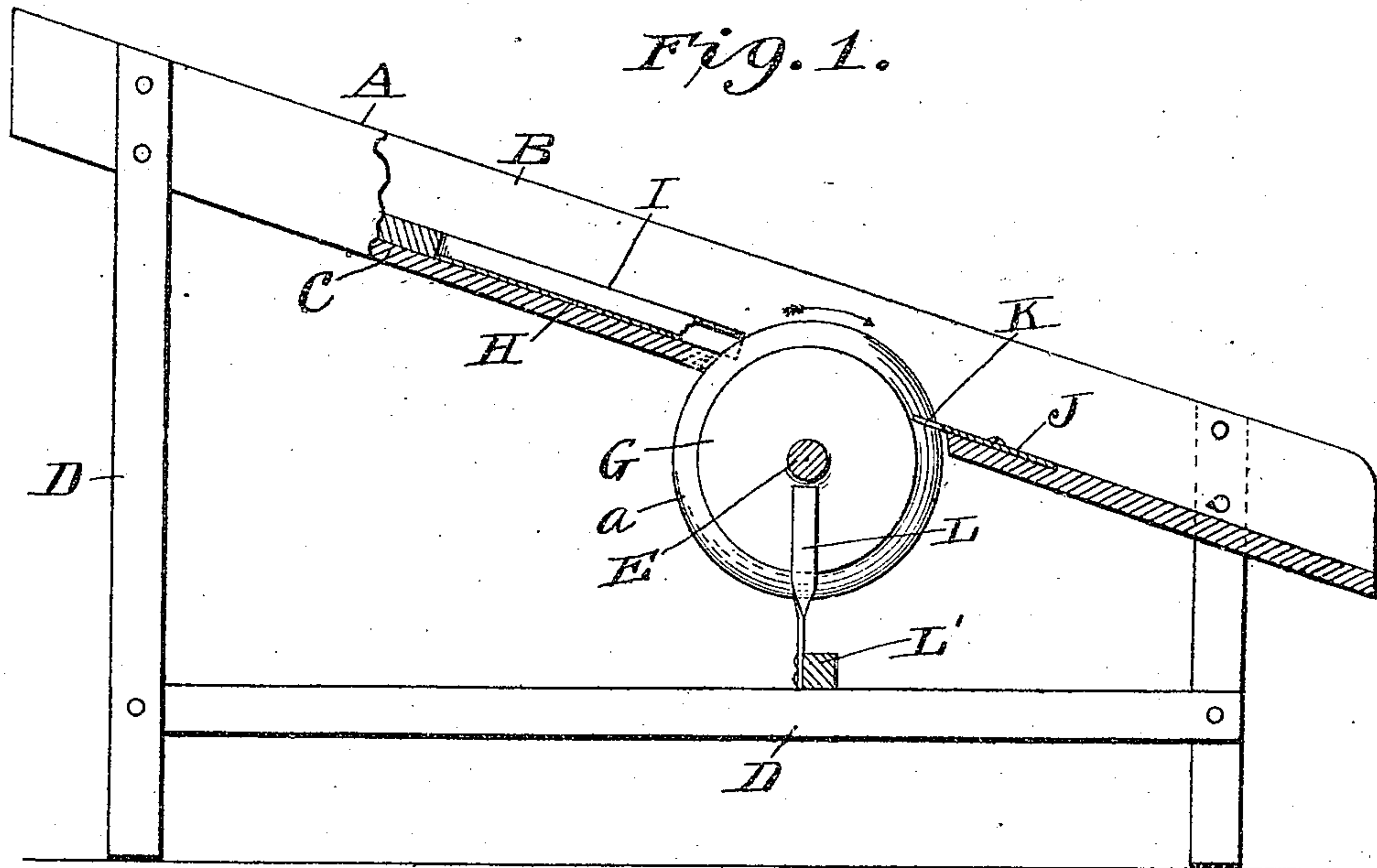
Patented Jan. 17, 1899.

A. H. ROBERTS.

SLATE PICKER.

(Application filed May 20, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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SLATE-PICKER.

SPECIFICATION forming part of Letters Patent No. 617,815, dated January 17, 1899.

Application filed May 20, 1898. Serial No. 681,252. (No model.)

To all whom it may concern:

Be it known that I, ADEN H. ROBERTS, a citizen of the United States, residing at Bernice, in the county of Sullivan and State of Pennsylvania, have invented certain new and useful Improvements in Slate-Pickers; 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.

My invention relates to an improvement in slate-pickers.

It has for its object to provide means for thoroughly cleaning coal and picking or separating slate therefrom which is simple and inexpensive in construction and easy and effective in operation.

My invention consists in a chute provided with a series of corrugations, and a shaft having a series of rotatable disks adjacent to said corrugations, said chute adapted to receive coal and separate the slate and dirt therefrom; in means for cleaning and preventing the said disks from clogging, and also in the construction, combination, and arrangement of the several parts, as more fully hereinafter described and claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view in elevation, partly in section; Fig. 2, a top plan view; and Fig. 3, a cross-section on line *x x*, Fig. 2, looking in the direction of the arrow.

In the drawings, in which like letters of reference denote like parts throughout the several views, A is an inclined chute, having sides B and bottom C, adapted to receive coal as it comes from a screen located above the same; D, a suitable frame on which said chute is supported, and E a shaft mounted on suitable bearings in the sides of the chute, provided on the outside of the chute with a pulley-wheel F, adapted to receive power to transmit motion to the shaft, and on the inside between the sides of the chute with a series of rotatable plane vertical disks G, having their outer peripheries beveled, as at *a*, said disks so arranged on shaft E as to leave spaces *a'* between the same.

H is a plate secured on the bottom of the chute just above the disks G, having oblique

upwardly-extending corrugations I, preferably corresponding in number to and in a line with the said disks G.

J is a plate secured to the bottom of the chute below the disks G and having toothed projections K, adapted to bear against or come into close proximity to the beveled edges of the disks G for the purpose of cleaning the same and preventing any coal after it has passed over the disks G from falling through between the bottom of the chute and the edges of the said disks.

L are a series of fingers mounted on a bar L', preferably located directly beneath the shaft of the rotatable disks G, which extend up into the spaces *a'* between the said disks for the purpose of cleaning and preventing the spaces from being clogged up.

By constructing the ridges of the corrugations of the chute and the disks so that they will be in alinement—that is, practically making the disks a continuation of the corrugations—and having the disks mounted at the end of said corrugations and adapted to rotate in the direction taken by the coal as it passes down the chute it will be seen that the slate will be turned up on edge and guided directly into and dropped down through the spaces between the rotatable disks, while the coal will be carried over the tops of the said disks and pass on down the chute and be delivered into any desired receptacle.

These several different parts of my invention may be made of sheet metal, steel, cast-iron, wood, or any other suitable material, as may be desired, and the construction may be varied somewhat without departing from the spirit of my invention.

Although I have described my invention as adapted to be used as a slate-picker and coal-cleaner, it could be used in separating ores, washing coal, &c.

The operation is as follows: The chute is arranged so that the angle or pitch of the same is such that the force of gravity will impart a rapid motion to the coal, which is received from a suitable screen or chute of a coal-breaker located above the same, and as the coal travels down the chute and onto the obliquely-inclined sides of the corrugations the slate therein will be turned up edgewise

by said corrugations, and when said slate, which is flat and thin, comes to the disks, which are being rotated by the pulley, it will fall through the spaces between the same, while the coal, being in pieces which are too large to pass through the spaces between the disks, will be carried over the disks and pass on down the chute. During the progress of the operation the toothed projections K keep the beveled edges of the disks clean and the fingers L keep the spaces between the disks from being clogged up.

Having thus described my invention, what I claim is—

1. A slate-picker, comprising a chute having a series of longitudinal corrugations, and a series of rotatable vertical disks having spaces between them, said disks arranged in alinement with the ridges of said corrugations, substantially as described.

2. A slate-picker, comprising a chute having a series of longitudinal corrugations, and a series of rotatable vertical disks having spaces between them, said disks located at the end of and in alinement with the ridges of said corrugations and forming a continuation thereof, substantially as described.

3. A slate-picker, comprising a chute having a series of longitudinal corrugations, and a series of rotatable disks having spaces between them, said disks located at the end of said corrugations and having their perimeters in line with and corresponding to the ridges

of said corrugations, substantially as described.

4. A slate-picker comprising a chute having a series of corrugations, a series of rotatable disks having spaces between them, said disks located at the end of and in line with the elevated portions of the corrugations, and a series of toothed projections located below said disks adapted to bear against or come into close proximity thereto, substantially as described.

5. A slate-picker comprising a chute having a series of corrugations, a series of rotatable disks having spaces between them, said disks located at the end of the corrugations and in alinement with the ridges thereof, a series of toothed projections located below and adapted to project between said disks, and a series of fingers located in the spaces between said disks, substantially as described.

6. A slate-picker, comprising a chute having a series of corrugations, a series of rotatable disks having spaces between them, said disks located at the end of and in alinement with the corrugations, and a series of fingers located in the spaces between said disks, substantially as described.

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

ADEN H. ROBERTS.

Witnesses:

JAMES CUNNINGHAM,
J. H. CRONIN.