

No. 615,840.

Patented Dec. 13, 1898.

C. F. GAY.

RIFFLE.

(Application filed Mar. 2, 1898.)

(No Model.)

Fig. 1.

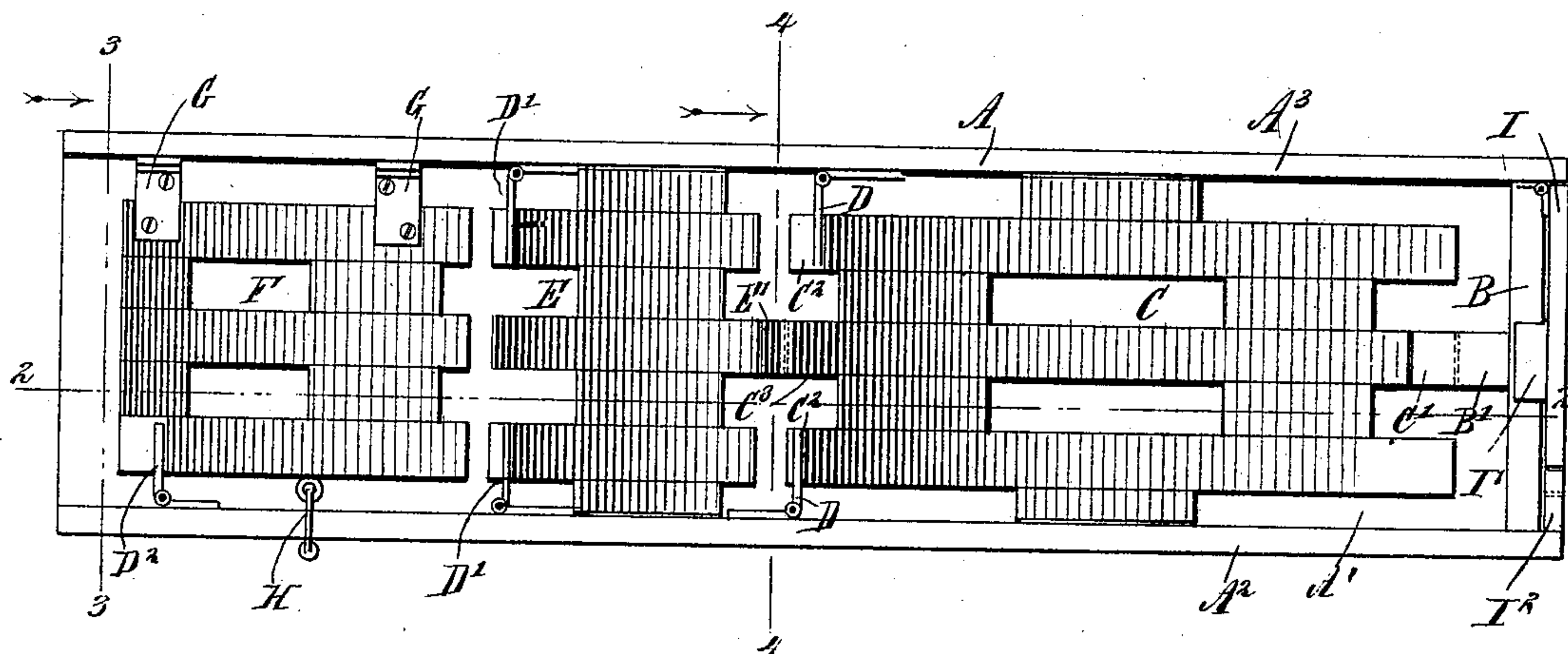


Fig. 2.

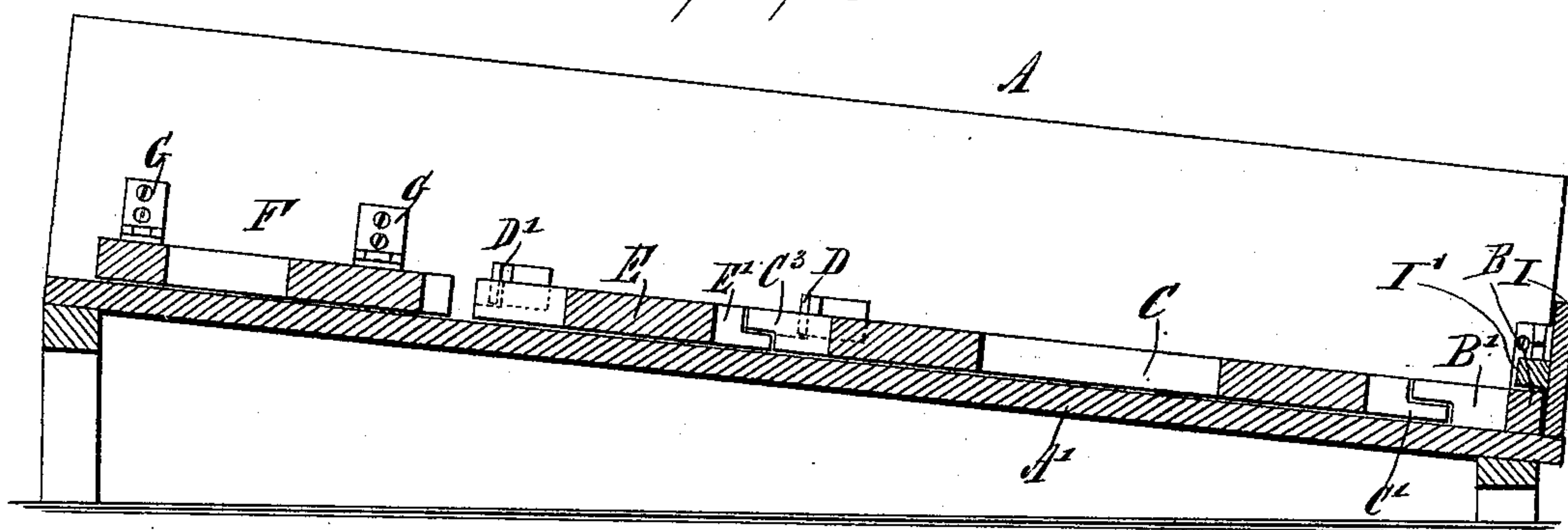


Fig. 3.

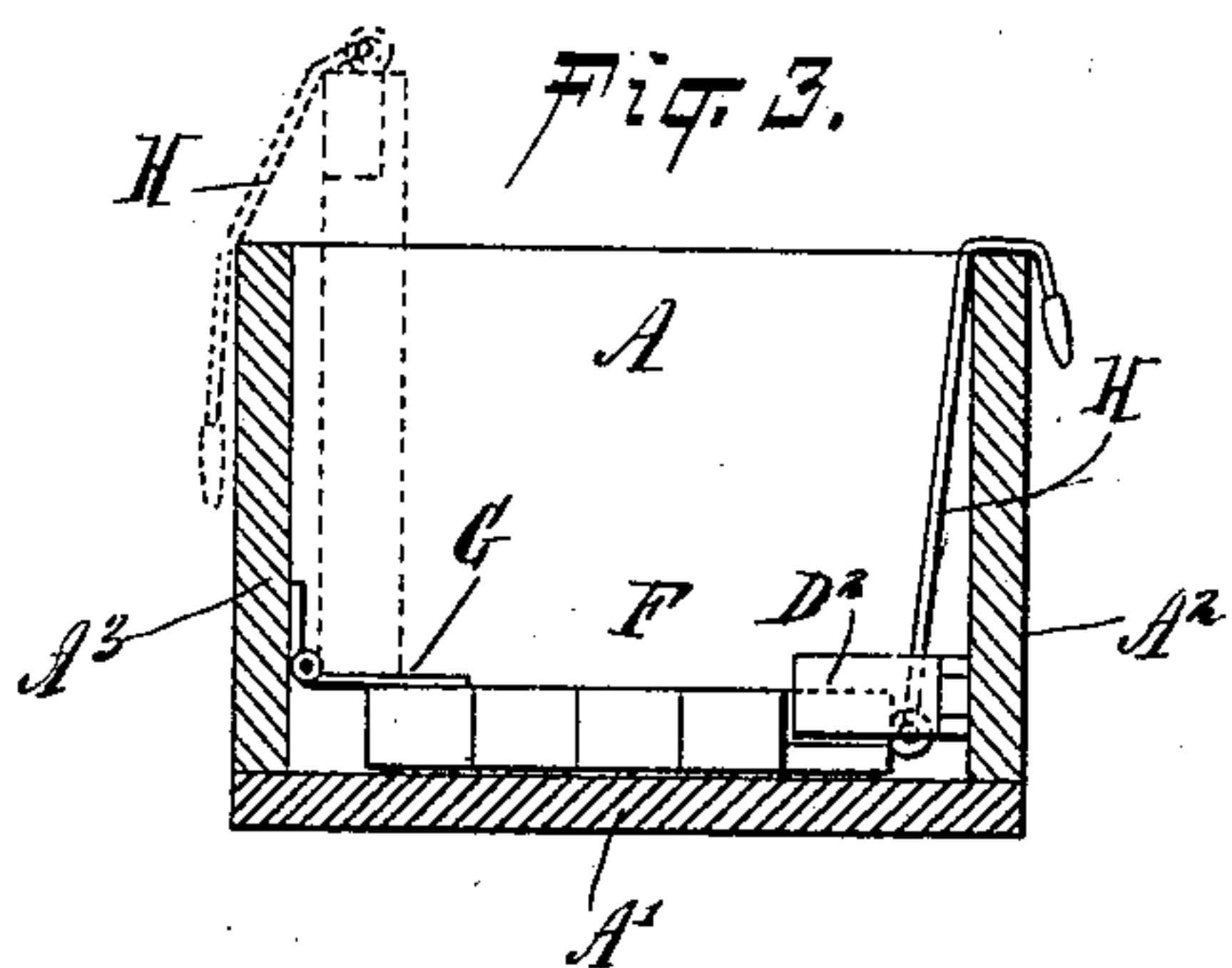
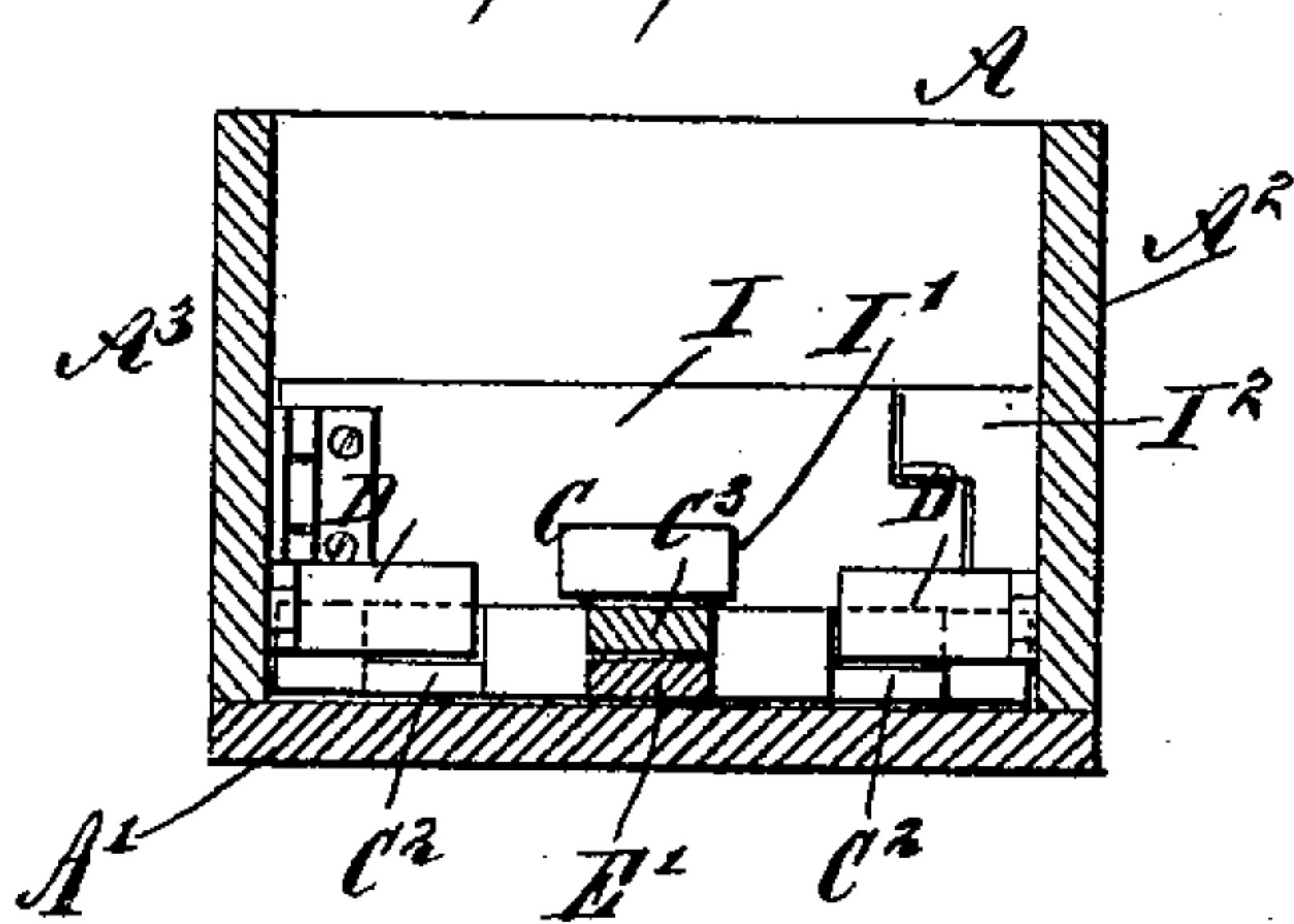


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## RIFFLE.

SPECIFICATION forming part of Letters Patent No. 615,840, dated December 13, 1898.

Application filed March 2, 1898. Serial No. 672,301. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES FRANKLIN GAY, of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Riffle, of which the following is a full, clear, and exact description.

The invention relates to mining apparatus, sluice-boxes, or flumes; and the object of the invention is to provide a new and improved riffle arranged to permit of conveniently placing the riffle-sections in position in the sluice-box or flume or removing the same therefrom for cleaning and other purposes and without the necessity of driving nails, screws or the like into the bottom of the sluice-box or flume to perforate the same and cause the bottom to leak.

The invention consists principally of a riffle made in independent sections removably held on the bottom of the sluice-box or flume.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

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

Figure 1 is a plan view of the improvement. Fig. 2 is a sectional side elevation of the same on the line 2 2 of Fig. 1. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 1, and Fig. 4 is a similar view of the same on the line 4 4 of Fig. 1.

The flume or box A is provided at the lower end of its bottom A' with a transversely-extending bar B, reaching from one side A<sup>2</sup> to the other side A<sup>3</sup> of the box or flume, as plainly illustrated in Figs. 1 and 2. From the middle of the bar B extends a lug B', formed at its free end with a bottom gain adapted to be engaged by a top gained lug C', forming part of the riffle-section C, resting on the lower part of the bottom A'. This riffle-section C is made of longitudinal strips, some of which are placed suitable distances apart to form pockets, as plainly illustrated in Fig. 1, for the gold or other valuable material to settle in.

The upper end of the riffle-section C is provided on its two longitudinal bars with top gains C<sup>2</sup>, adapted to be engaged by the free

leaves D of hinges secured to the sides A<sup>2</sup> A<sup>3</sup>, the said leaves serving to hold the riffle-section C down upon the bottom A'. On the upper end of the riffle-section C, and preferably at or near the middle thereof, is arranged a bottom gained lug C<sup>3</sup>, adapted to be engaged by a top gained lug E', held on the next following riffle-section E, likewise placed on the bottom A' of the flume or box and held in place thereon by hinge-leaves D', similar to the leaves D.

The upper section F of the riffle is provided with hinges G for connecting the riffle to the side A<sup>3</sup> of the box or flume to permit of swinging this riffle-section upward away from the bottom, as indicated in dotted lines in Fig. 3. When the riffle-section is, however, in action, it is held upon the bottom A' of the box or flume by a leaf D<sup>2</sup>, similar to the leaves D' D. When this leaf is out of engagement with the riffle-section F, then the latter can be readily raised by a suitable handle H, attached to the free end of the riffle-section F and made of cord or rope formed at its end with a handle extending over the top edge of one of the sides, as shown in Fig. 1.

Now it will be seen that by the arrangement described the riffle-sections C, E, and F are securely held to the bottom A' of the box or flume during the time the material passes through the flume, so that the gold and other valuable particles can readily settle in the pockets and recesses formed by the riffle-sections.

When it is desired to clean the flume and the riffle-sections, the latter can be readily removed from the bottom for the purpose mentioned.

It will further be seen that by the arrangement described it is not necessary to drive nails, screws, and the like into the bottom A' for permanently fastening the leaves down, as heretofore practiced, and consequently the bottom A' is not perforated and caused to leak, as is so frequently the case in sluice-boxes and flumes heretofore constructed.

The extreme lower end of the box A is provided with a hinged door I, closed for daily use and to be opened when it is desired to clean and sweep the whole sluice-box. This door also serves to hold down the lower cross-



bar B, the door being for this purpose provided with a cleat I', extending over the bar, at the middle thereof, as shown in the drawings. The door can also be used as a stop-rifle when cleaning up one or more sluices. The free end of the door is adapted to fasten to a keeper I<sup>2</sup>, secured to the side of the box opposite that on which the door is hinged.

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

1. A sluice-box, having riffles formed in independent removable sections hinged to the sluice-walls and having pockets or depressions beneath their upper surfaces and extending to their side edges, and locking-bars hinged upon the side walls of the sluice and adapted to swing horizontally into said pockets and to engage the lower side of said pockets, substantially as described.

2. A sluice-box, having a hinged gate or weir at the lower or discharge end thereof and a lug projecting from the upstream side of the gate and above the bottom of the sluice, a cross-bar held beneath said lug and having a projection extending upstream and provided with a bottom gain, removable riffles having interlocking projections at their upper and lower ends which are also adapted to engage the gain in said bar, and arms hinged to the sluice-walls and swinging horizontally to

engage the upper ends of the section and move the same down, substantially as described.

3. A sluice-box, having a hinged gate or weir at the lower or discharge end thereof and a lug projecting from the upstream side of the gate and above the bottom of the sluice, a cross-bar held above said lug and having a projection extending upstream and provided with a bottom gain, removable riffles having interlocking projections at their upper and lower ends which are also adapted to engage the gain, in said bar and having pockets or depressions beneath their upper surfaces near their upper ends and extending to their side edges, and arms hinged to the sluice-walls and swinging horizontally to enter said pockets, and to engage the lower sides thereof, whereby the riffles are removably held in place, substantially as described.

4. A removable riffle-section, composed of a series of short strips or bars secured alongside each other, the ends of the section being stepped by having some of the strips dropped back, certain of the projecting strips being halved horizontally so as to provide a locking engagement with adjoining sections.

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