

J. F. Gebhart
Loom Shedding

N^o 66,828.

Patented Jul. 16, 1867.

Fig. 1.

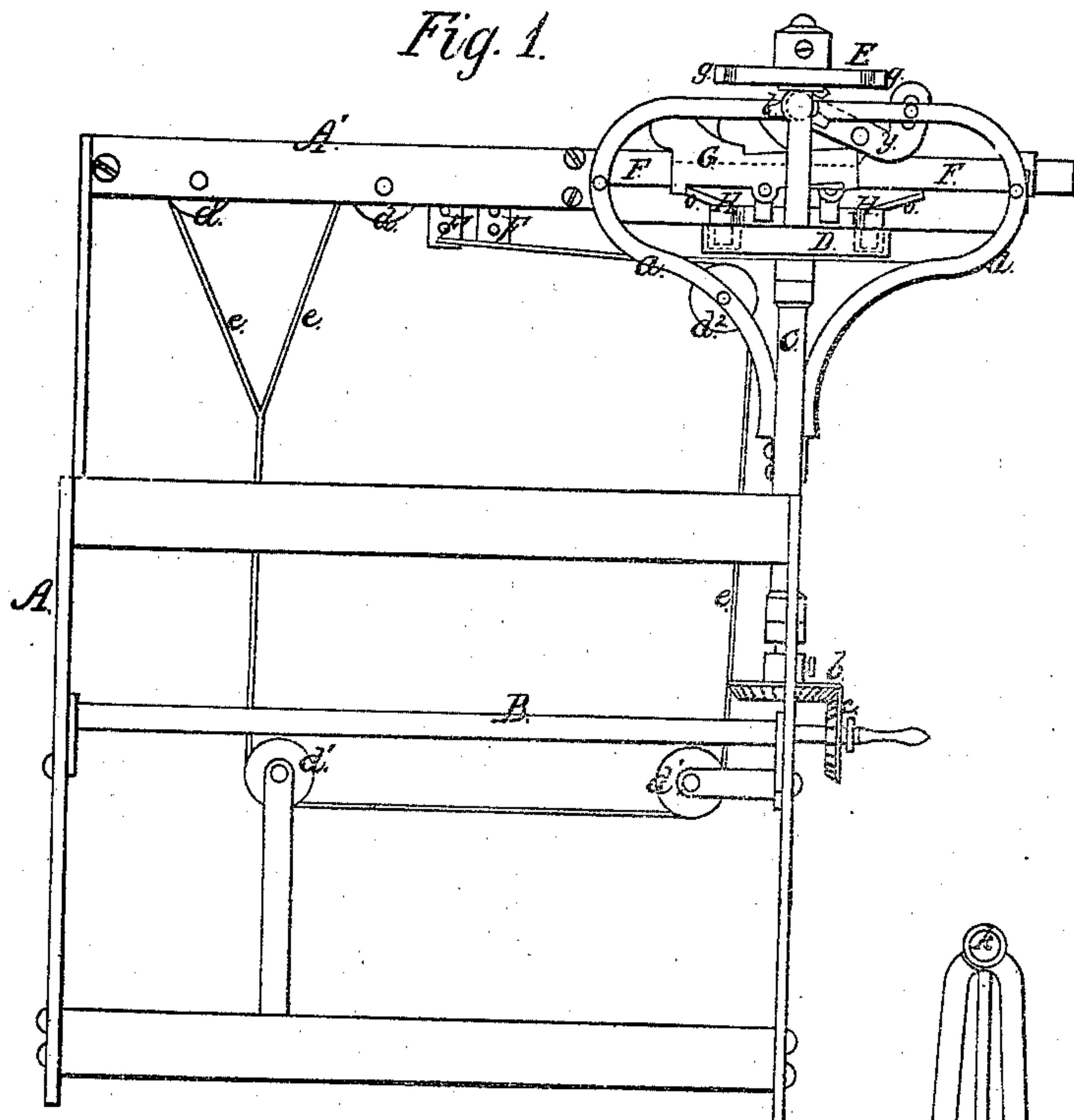


Fig. 3.

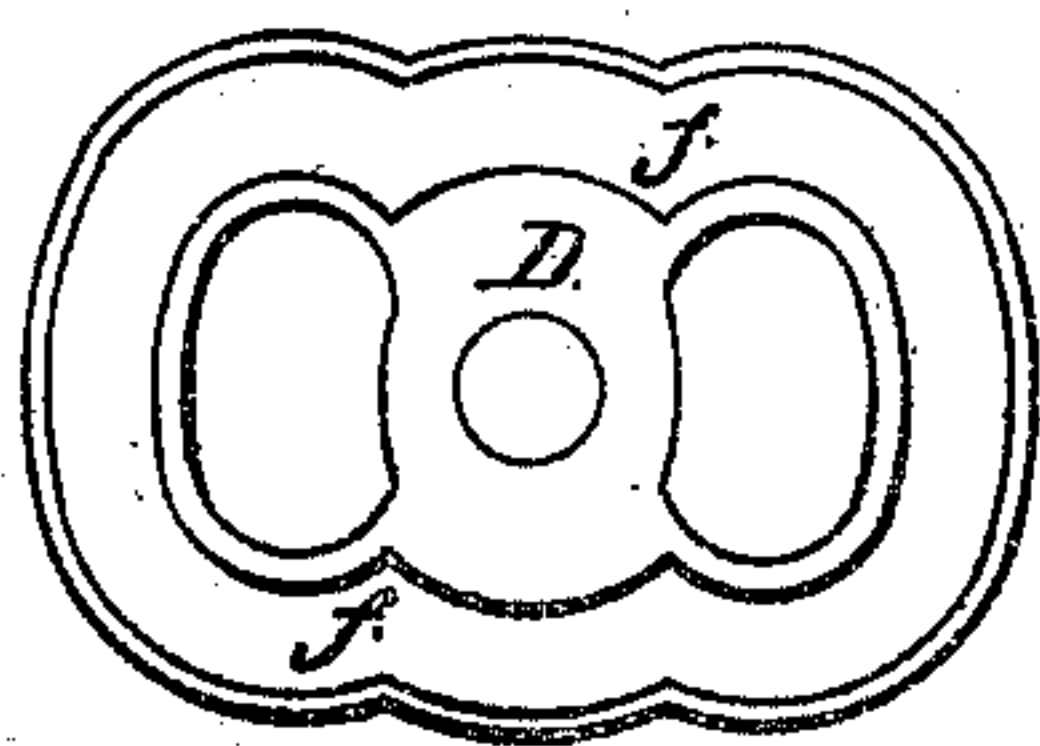
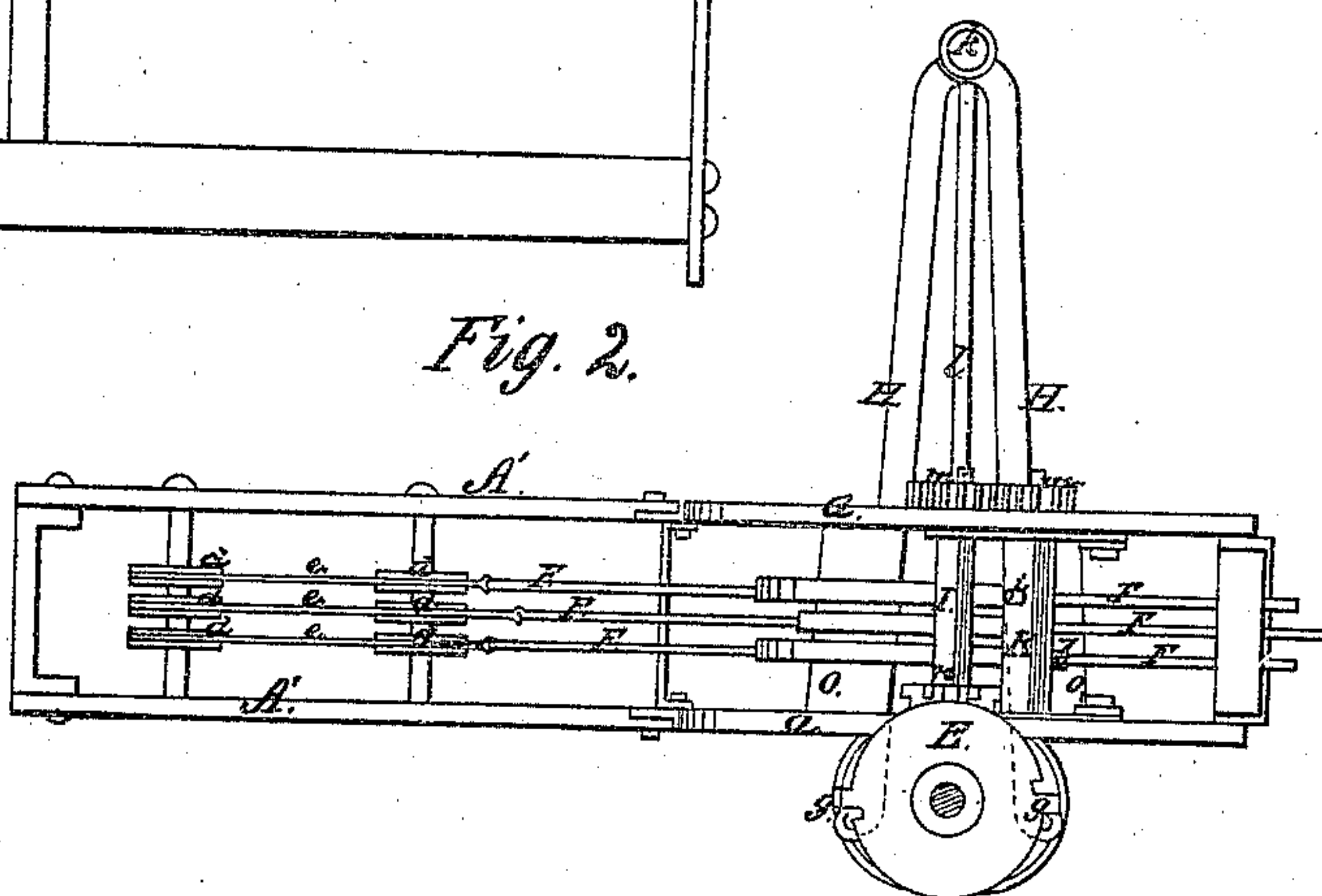


Fig. 2.



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Witnesses,

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United States Patent Office.

JOHN F. GEBHART, OF NEW ALBANY, INDIANA.

Letters Patent No. 66,828, dated July 16, 1867.

IMPROVEMENT IN HARNESS-MOTION FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. F. GEBHART, of New Albany, in the county of Floyd, and in the State of Indiana, have invented certain new and useful Improvements in Looms; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

Figure 1 represents a front elevation.

Figure 2, a plan view of the sheave-frame.

Figure 3, a plan view of cam.

My invention relates to the manner of operating the heddle-frames in looms whereby any number, from two to twenty-four, may be used for weaving fancy twilled or plain cloth.

In the annexed drawings, A represents the ordinary frame of the loom with the sheave-frame A' elevated above it. At one end of the frame is placed a metallic upright, connected to the upper of which are two oblong bows, *a a*, which support the slides that operate the heddle-frames. C represents a vertical shaft which extends to the tops of these bows, and secured upon the frame in front or in the rear of the metal upright which supports the bows *a*. This shaft has a peculiar-shaped cam, D, near its top, which is revolved with the shaft. This cam is made of an oblong oval form, and provided with a groove, *f f*, fig. 3, to correspond with the shape thereof. At the top of the shaft C is a metallic wheel, E, provided with two lugs, *g g*, placed on its circumference at opposite sides from each other, and having small notches cut into the edge of wheel near the lugs. Pivoted to the arm *l* of the metallic standard are two levers, H H, which extend from their pivot *k*, between the bows *a a*, where they are rested, and connected by means of pins on their ends into the groove *f f* of the cam D. These levers are each provided with a slanting flange, *o o*, on their outer edges, which lie between the bows *a a*, as seen in fig. 2, and which are intended to catch under dogs G that straddle the sliding bars F. The slides F F F are supported upon bows in the frame A' and bars *a a*, and are so placed as to move out and in when operated by the machinery. One of the dogs G is placed upon each slide so that motion is imparted to them by the working of the levers. The dogs are formed with a shoulder at each end at their under parts, and are made heavier at the inner ends so that one shoulder is ready to be caught by the inner lever as it is spread by the cam, and then by the outer lever, as will be more fully described. It will be observed that the inner ends of the slides F are bent so as to connect the straps that support the heddle-frames, while there are cords or straps connecting the said slides which pass over the sheaves *d d* in the frame A' and pass toward the bottom under sheaves *d'*, suitably secured upon a standard, and thence under another sheave near the metallic standard, thence over sheaves *d''*, secured between the bows *a a*, and again to the projecting ends of the slides, so that the same motion that draws the heddle-frames in one direction will draw them in the other. At the top of the bows there is a small shaft, I, provided with a cog-wheel, *m'*, on its outer end, and having a small spur-wheel, *n*, on its inner end, which catches into the notch and against the lugs on the wheel E as it is turned upon its shaft C. K represents the pattern cylinder, having pins or lugs *z z z* upon each face and bearing upon the outer ends of the dogs, raising or lowering the ends of the same as it is turned, and allowing the flanges *o o* to catch against the shoulders and carry the slides from the bows *a a*, or *vice versa*. This cylinder has a cog-wheel, *m*, on its outer end, and is secured between the bows by two curved bars, *y*, which are provided with slots for regulating the bearing of the pins upon the dogs.

In the operation of the harness by this invention the power is applied to the main shaft B, which has a small bevelled cog-wheel, *c*, on its end, which meshes into a faced cog, *b*, upon the lower end of the shaft C. This shaft, by means of its cam D and the pins on the ends of levers H H, will cause the levers to spread as the cam is revolved, and the flanges catching against the shoulders on the dogs G will force the slides F out and back, drawing and withdrawing the heddle-frames by means of the cords *e*, arranged as before stated. As the shaft C is revolved the lugs *g g* on the wheel E will strike the spurs on the shaft I and turn it so that the cylinder K is forced around enough to allow one of the pins to press down the dog and cause one slide to move outwards while the other two are moved inwards, (according to the number of slides used,) and carry the proper motion to the heddle-frames.

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

1. The arrangement of the slides *F F F* and dogs *G*, as constructed and used in combination with the levers *H H* and cam *D*, for the purposes specified.

2. The wheel *E*, with lugs *g g*, shaft *I*, spur-wheel *n*, cylinder *K*, with pins *z z z* for operating the dogs *G* and giving motion to the slides *F*, when constructed and operating in the manner and for the purposes set forth.

3. The arrangement of the slides *F*, sheaves *d d¹ d²*, and cords *e e*, with the frames *A A'* and bows *a a*, as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of April, 1867.

J. F. GEBHART.

Witnesses:

B. B. SCRIBNER,

EDWARD A. MAGINNESS.