

(No Model.)

2 Sheets—Sheet 1.

G. POTTS.

TILE TABLE.

No. 316,172.

Patented Apr. 21, 1885.

Fig. 2.

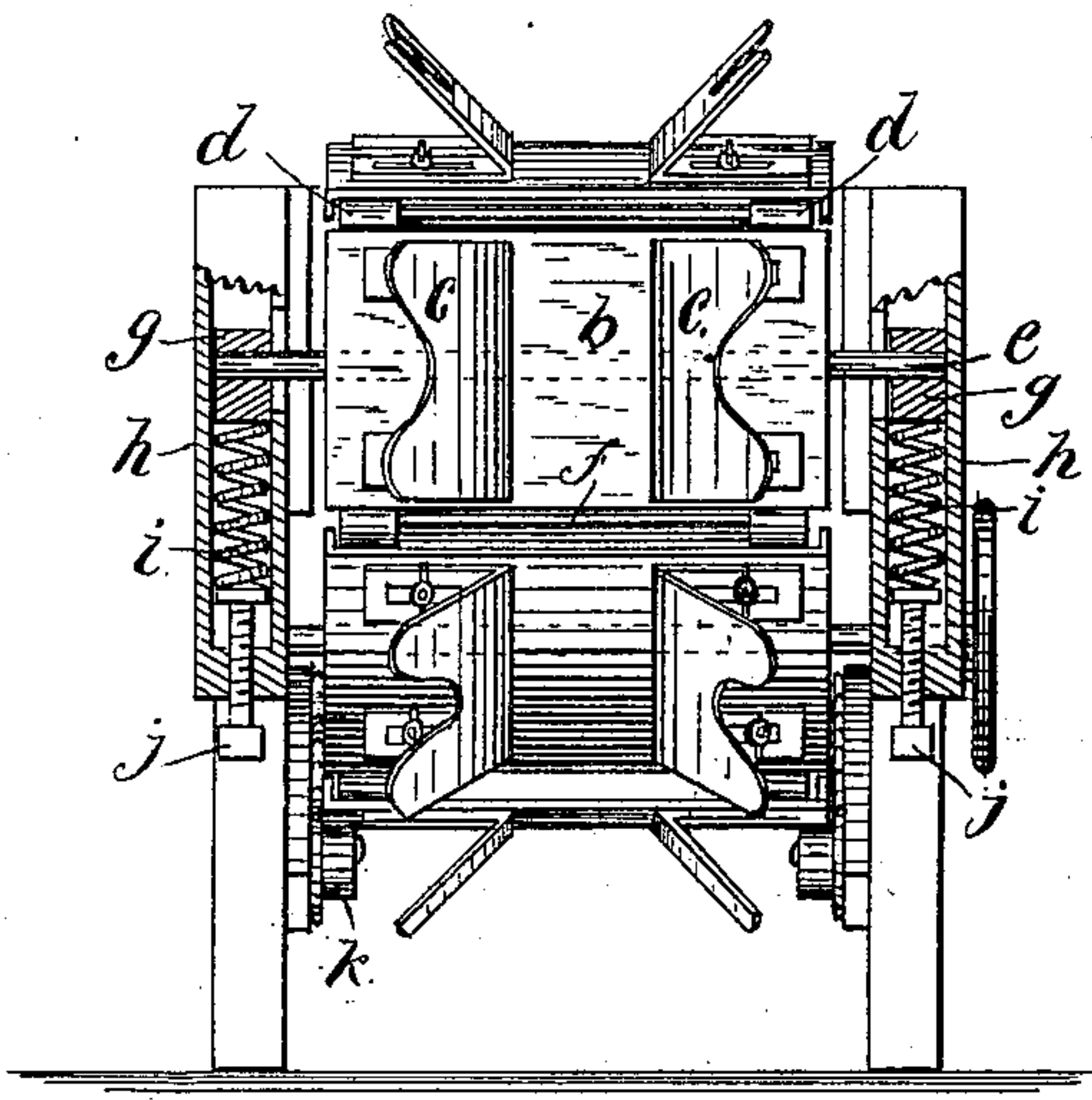


Fig. 3.

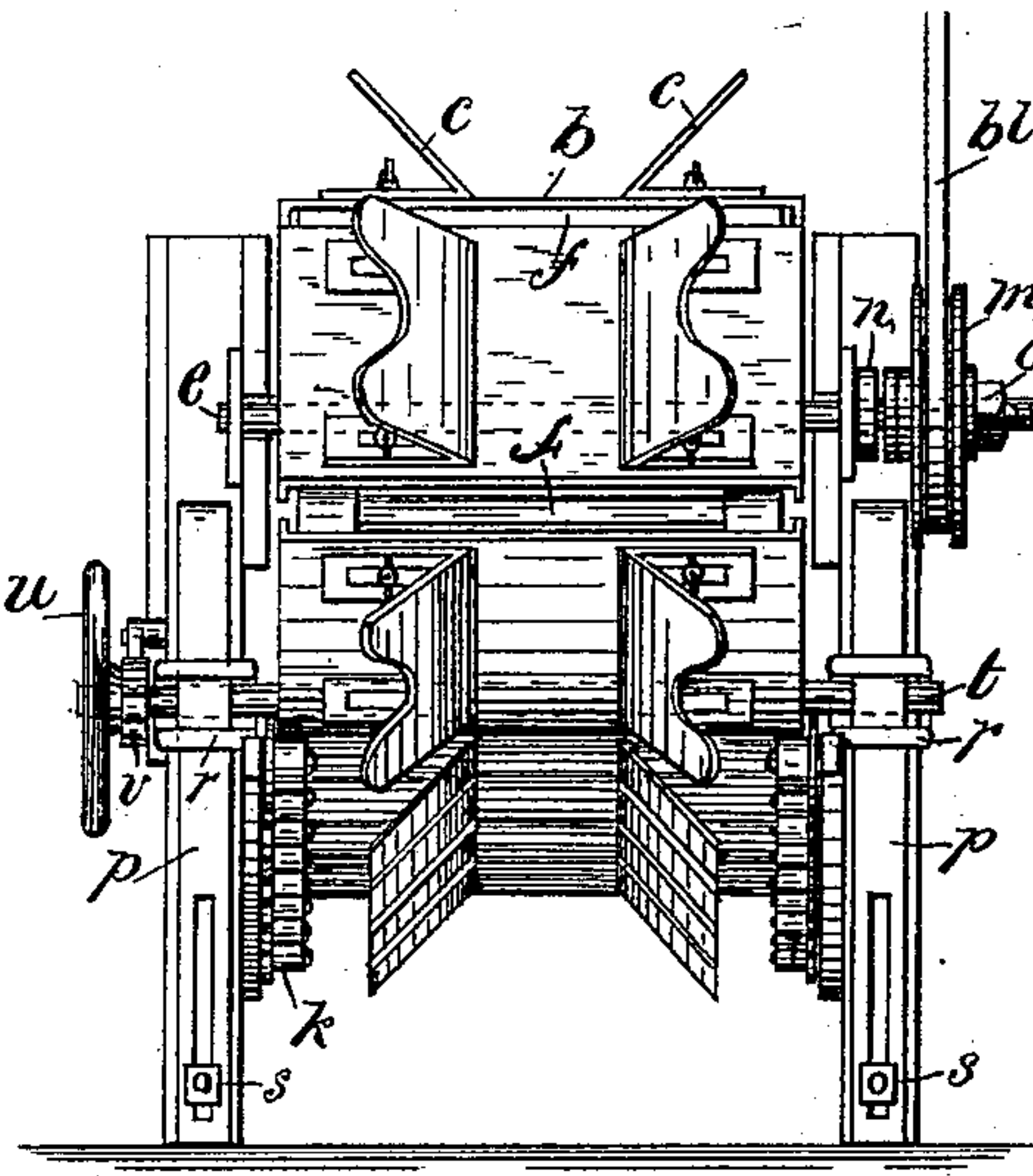
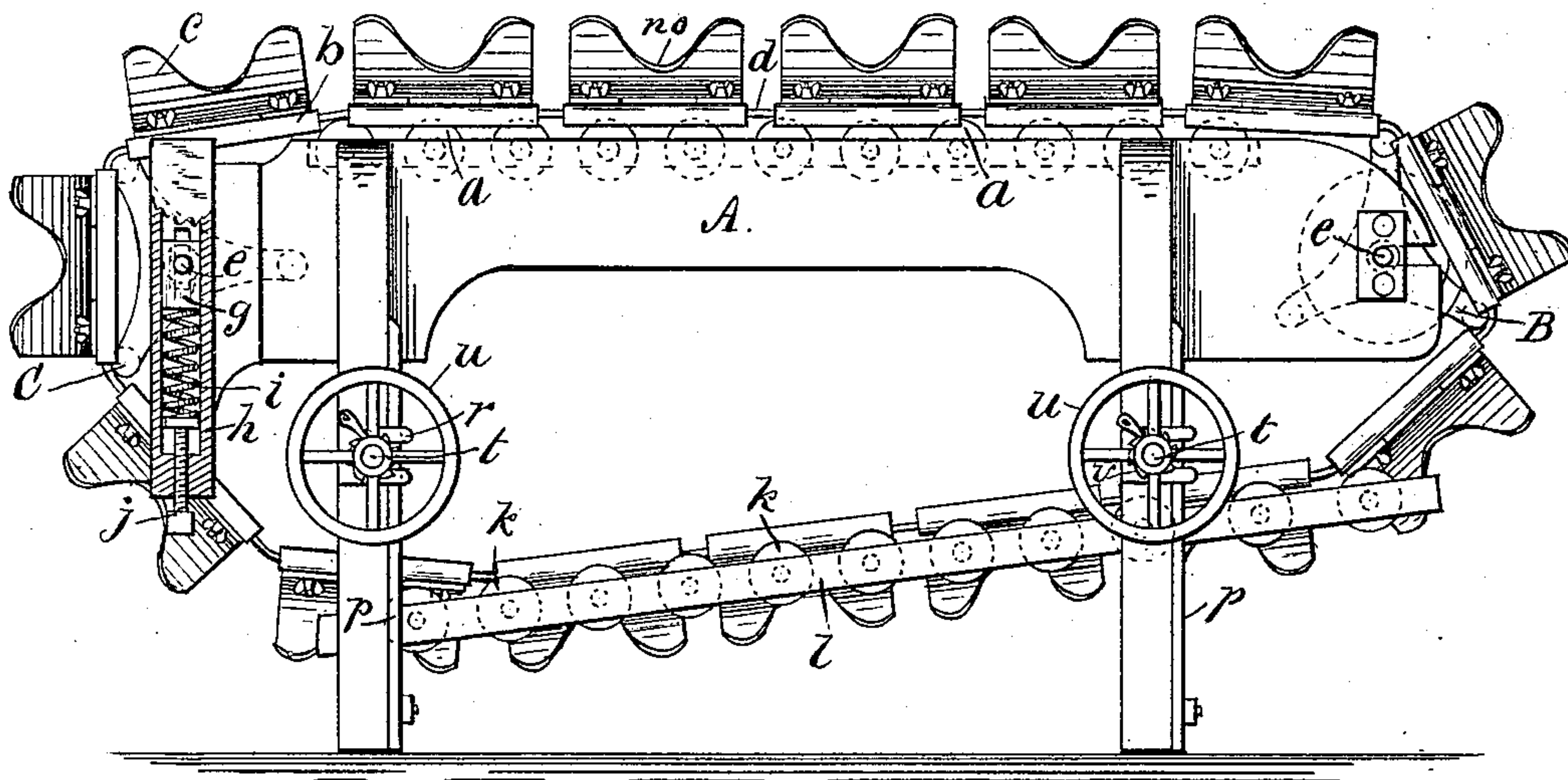


Fig. 1.



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By H. P. Hood
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Fig. 4.

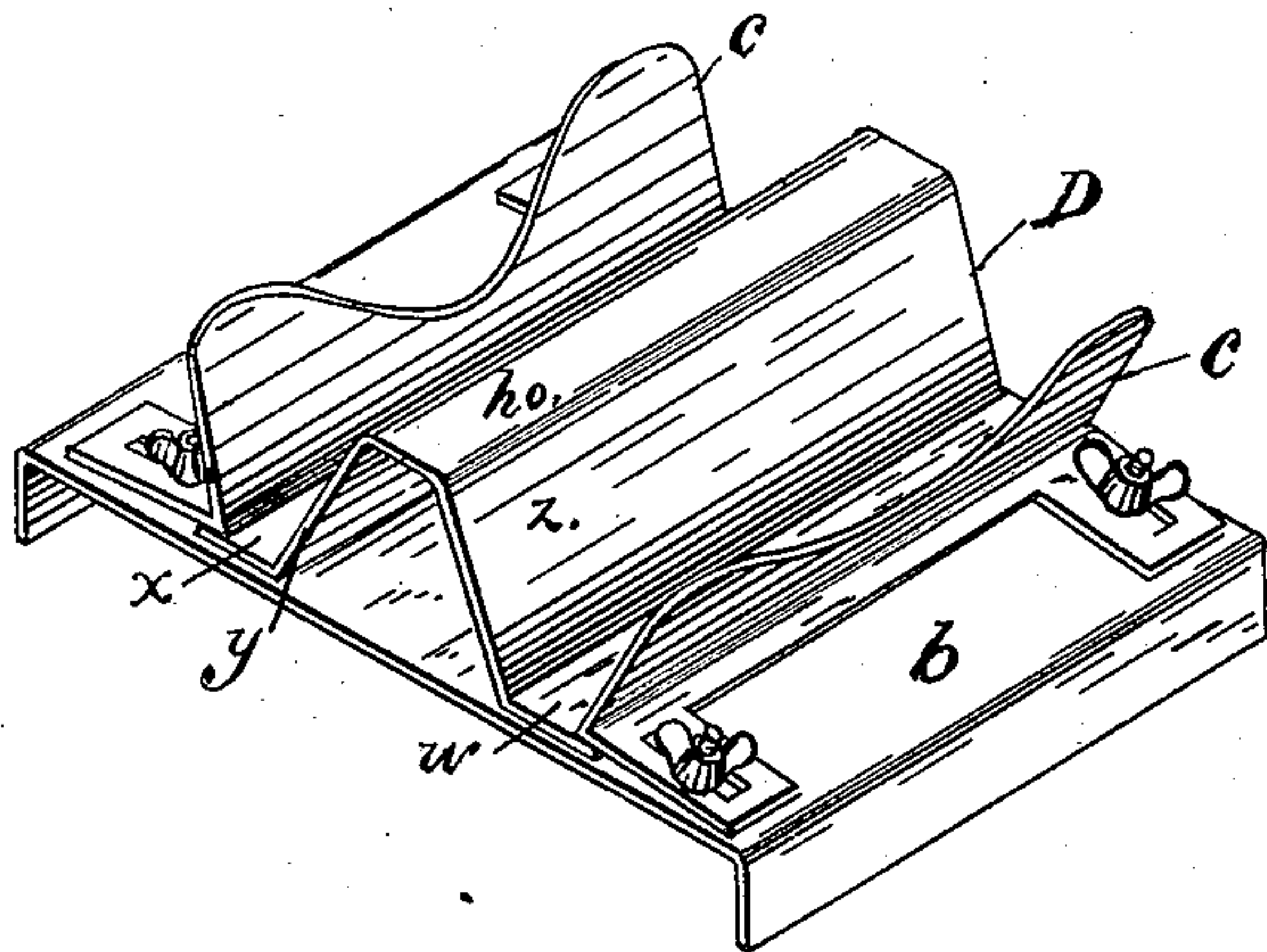
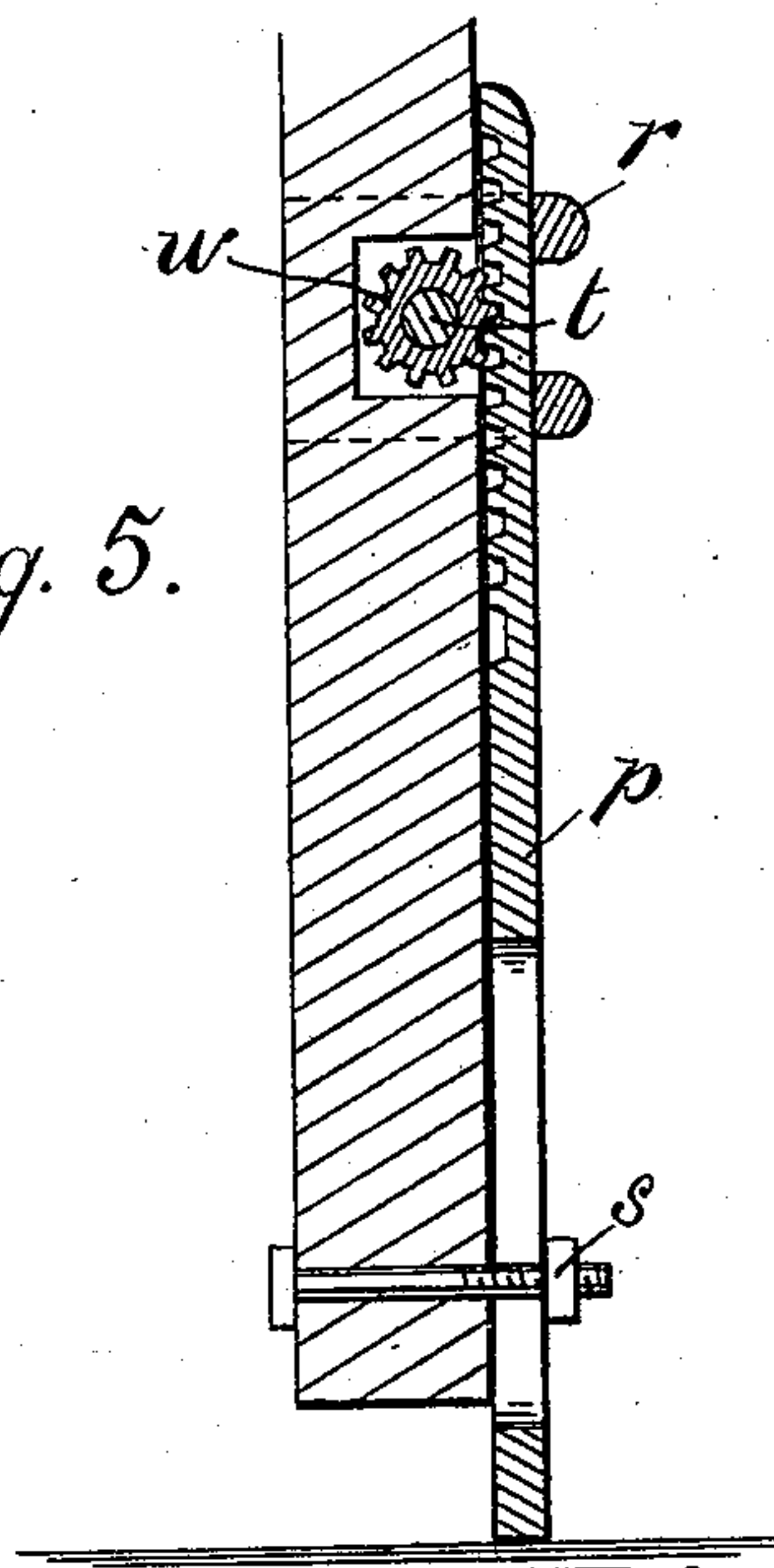


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE POTTS, OF INDIANAPOLIS, INDIANA.

TILE-TABLE.

SPECIFICATION forming part of Letters Patent No. 316,172, dated April 21, 1885.

Application filed November 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE POTTS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improved Tile-Table, of which the following is a specification.

My invention relates to an improvement in tables for receiving and sustaining drain-tiles as they issue from a drain-tile machine.

The objects of my improvement are, first, to so construct the tile-table that the tile-supports shall yield with less resistance than heretofore to the outward movement of the tile as it comes from the dies; second, to so construct the tile-supports that they may support cylindrical tiles on three sides, and also be adjusted to different-sized tiles; third, to adapt the tile-table, by means of novel tile-supports, to receive two tiles simultaneously from a tile-machine having double dies; fourth, to so mount the endless belt of tile-supports in a suitable frame that said supports shall engage the tiles as they issue from the machine with a yielding pressure, and thereby avoid marring the tiles; fifth, to discharge the tiles from the table in a vertical position, so that they may rest on their ends on the trays of the off-bearers; and, sixth, to adjust the height of the table by novel means to the varying height of different machines, all as hereinafter described.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of the table. Fig. 2 is an elevation of the receiving end. Fig. 3 is an elevation of the discharging end. Fig. 4 is an enlarged perspective of a tile-support adapted to receive two tiles simultaneously from a tile-machine having double dies. Fig. 5 is an enlarged section showing the means for extending the legs of the table.

A is the frame of the table. Between the sides, in the upper edges of said frame, are mounted a series of friction-rolls, *a a*, forming an even and true support for the series of tile-supports. Said tile-supports each consist of a flat plate, *b*, and a pair of angle-plates, *c c*. The inner faces of said angle-plates form opposed angles of about forty-five degrees with the upper surface of the plate *b*, and are each adjustably secured to plate *b* by means of bolts

passing through said plate *b*, and also through the angle-plates, the arrangement being such that the distance between the opposed surfaces of the angle-plates may be increased or diminished to adapt them to tiles of different diameters. The plates *b* are designed to be a little less in length than the length of a tile, and are permanently secured, a short distance apart, to a pair of endless belts, *d d*.

At each end of frame A, between the sides thereof, are mounted, so as to revolve in suitable bearings, a pair of reels, B and C. Said reels are each formed of a pair of spiders, having each three arms, the outer ends of which are of such distance apart as to engage the belts *d d* between the plates *b*. Said spiders are mounted on opposite ends of shafts *e*, with their arms opposite and connected by bars *f*. The shaft of reel B is journaled in bearings which are rigidly secured to the sides of frame A at the discharging end of the table. The shaft of reel C is journaled in bearing-blocks *g g*, which slide vertically in guide-boxes *h h*. Each bearing is sustained by a spiral spring, *i*, the tension of which is adjusted by a screw, *j*. Belts *d d*, having the tile-supports secured thereto, are passed over reels B and C, resting on the rolls *a*.

For the purpose of sustaining the lower or return side of the belts and tile-supports, a series of flanged friction-rolls, *k k*, are mounted on studs secured to the inside of a pair of ways, *l*, fastened to the legs of frame A, and for the purpose of assisting the movement of the belt by the force of gravitation said ways are inclined downward toward the receiving end of the table, as shown.

For the purpose of still further facilitating the movement of the belts and tile-supports, when actuated by the outward-moving tile as it comes from the tile-machine, a grooved pulley, *m*, is mounted so as to turn loosely on the shaft of reel B, and is adapted to be connected thereto by a friction-clutch. Said clutch consists of a collar, *n*, secured to the shaft and faced with leather, a leather facing to the opposed end of the hub of pulley *m*, and a nut, *o*, which is screwed on the extreme end of the shaft, which is threaded for the purpose. A belt, *bl*, is passed over pulley *m*, and a corresponding pulley secured to one of the moving shafts on the tile-machine, the effect being to

revolve pulley *m* continuously when the tile-machine is running.

For the purpose of accurately adjusting the table to the height of the dies on the tile-machine, I secure on each leg of the table an extension-leg, *p*. Said extensions are preferably made of cast-iron, and have each a cog-rack formed on their inner face. They are secured in place on the legs by embracing-plates *r* and bolts *s*, the extension-leg being slotted for the passage of said bolt. Each pair of extension-legs is connected by a shaft, *t*, on which is secured a hand-wheel, *u*, a ratchet-wheel *v*, and a pair of pinions, *w*. Said pinions engage the rack-bars on the respective extension-legs and operate to raise or lower said legs.

The operation of my improved table is as follows: The table, being placed in position to receive the tile as it comes from the tile-machine, is adjusted by means of the hand-wheel *u*, operating the extension-legs at each end, so that the upper surfaces of plates *b* are just level with the lower side of the forming-die in the tile-mill. The belt *bl*, connecting-pulley *m* with the tile-machine, is now put in position, and nut *o* is screwed up until the friction between the hub of the pulley and the collar *n* is just sufficient to turn reel B. Nut *o* is then slightly relaxed, so that the reel will stand still, but will turn with a very slight additional force, which force is supplied by the tile as it issues from the tile-machine coming in contact with the surface of plates *b* and *c c*. Said plates *c c* are so adjusted transversely on plate *b* that the tile will rest equally on all of said plates, being supported on each side by the plates *c c* and on the bottom by plate *b*. The true cylindrical form of the tile is thus preserved.

Heretofore in this class of machines the endless belt or belts carrying the tile-supports have been passed over cylindrical drums mounted in fixed bearings at each end of the frame, and where the tile-supports have been of any considerable length the irregular movement of the long straight and rigid surface passing over the cylindrical drum has caused a scraping movement of the support on the tile, thus marring it. In my machine this evil is avoided by the peculiar movement of the tile-support at the receiving end, caused by the combined action of the triangular reel and its yielding support. When the arm of the reel which supports the forward end of a tile-support as it first comes in contact with the tile passes a point vertically over the shaft of said reel, springs *i* are compressed, and as soon as the said arm has fully passed the center the reaction of said spring lifts the reel, which, turning at the same time, brings the back end of the support quickly up to the tile, the plate *b* swinging on its forward end as a center. The tile is cut between the supports in suitable lengths, and as said lengths reach the discharging end of the frame the supports on which they rest assume an inclined position, at which time the off-bearer places his tray

across the end of the tile. The back end of the support remains nearly stationary, while the forward end falls rapidly away until the support is perpendicular, when the tile is removed.

It is sometimes desirable to remove the tile before it reaches the discharge end of the table, and to facilitate this each of the angle-plates *c* has a notch, *no*, through which the hands may be passed to remove the tile.

For the purpose of adapting the tile-supports to receive two tiles simultaneously from a tile-machine having double dies, I use in connection with the plates *b* and *c c* an auxiliary support, D, Fig. 4. Said support consists of a sheet of metal bent so as to form two flanges, *w* and *x*, and two angular faces, *y* and *z*, corresponding to the angular faces of plates *c c*. The faces *y* and *z* are united by a horizontal portion, *ho*. In operation the flanges *w* and *x* are placed under plates *c*, so as to be clamped between said plates and plate *b*. Two trough-like supports are thus formed side by side, which are adjustable within narrow limits to different-sized tiles.

I claim as my invention—

1. A tile-table consisting of the following elements, namely: a frame having a series of friction-rollers forming a true bearing-surface, two reels mounted on shafts at opposite ends of said frame, one of which shafts rests in bearings on elastic supports and is adapted to yield and move in a vertical plane, and a series of tile-supports secured to an endless belt resting on said reels, and friction-rollers, all combined and adapted to co-operate substantially as specified.

2. In a tile-table, the combination, with an endless belt and a series of tile-supports secured thereto, the supporting-frame, the friction-rolls, and the reels, of the inclined ways having each a series of friction-wheels and adapted to support the under or return side of the belt, substantially as and for the purpose specified.

3. In a tile-table, the combination, with an endless belt having a series of tile-supports secured thereto at regular intervals, and a frame adapted to support said belt, of a reel having radial arms, the distance between the outer ends of which corresponds to the spaces between the tile-supports, said reel being mounted on bearings in said frame and adapted to carry said belt and tile-supports, substantially as specified.

4. In a tile-table, the tile-support consisting of a flat plate and a pair of angle-plates having opposed surfaces oppositely inclined to said flat plate and adjustably secured thereto, whereby said tile-support is adapted to receive and fit cylindrical tiles of different diameters.

5. In a tile-table, the combination, with a tile-support consisting of a flat plate and two angle-plates adapted to be adjustably secured thereto and presenting opposed faces oppositely inclined to said flat plate, of the auxiliary support D, bent and formed substantially

as shown and described, and adapted to co-operate therewith, for the purpose specified.

5 6. In a tile-table, the combination, with an endless belt having a series of tile-supports secured thereto, a frame supporting said belt, and a reel secured on a shaft having bearings in said frame and adapted to carry said belt, of the pulley mounted loosely on said shaft and connected therewith by a friction-clutch, all
10 substantially as and for the purpose specified.

7. In a tile-table, the combination, with the frame and the endless belt of tile-supports mounted thereon, of the extension-legs having a rack formed thereon and actuated in

pairs by a shaft mounted on the legs of said 15 frame, and having a hand-wheel, a ratchet-wheel, and a pair of spur-pinions secured thereto, said pinions engaging the racks on said extension-legs, in the manner and for the purpose specified. 20

8. In a tile-table having tile-supports of substantially the length of a tile, a tile-support having notch *no* in its side plates, for the purpose specified.

GEORGE POTTS.

Witnesses:

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FRANK A. JACOB.