

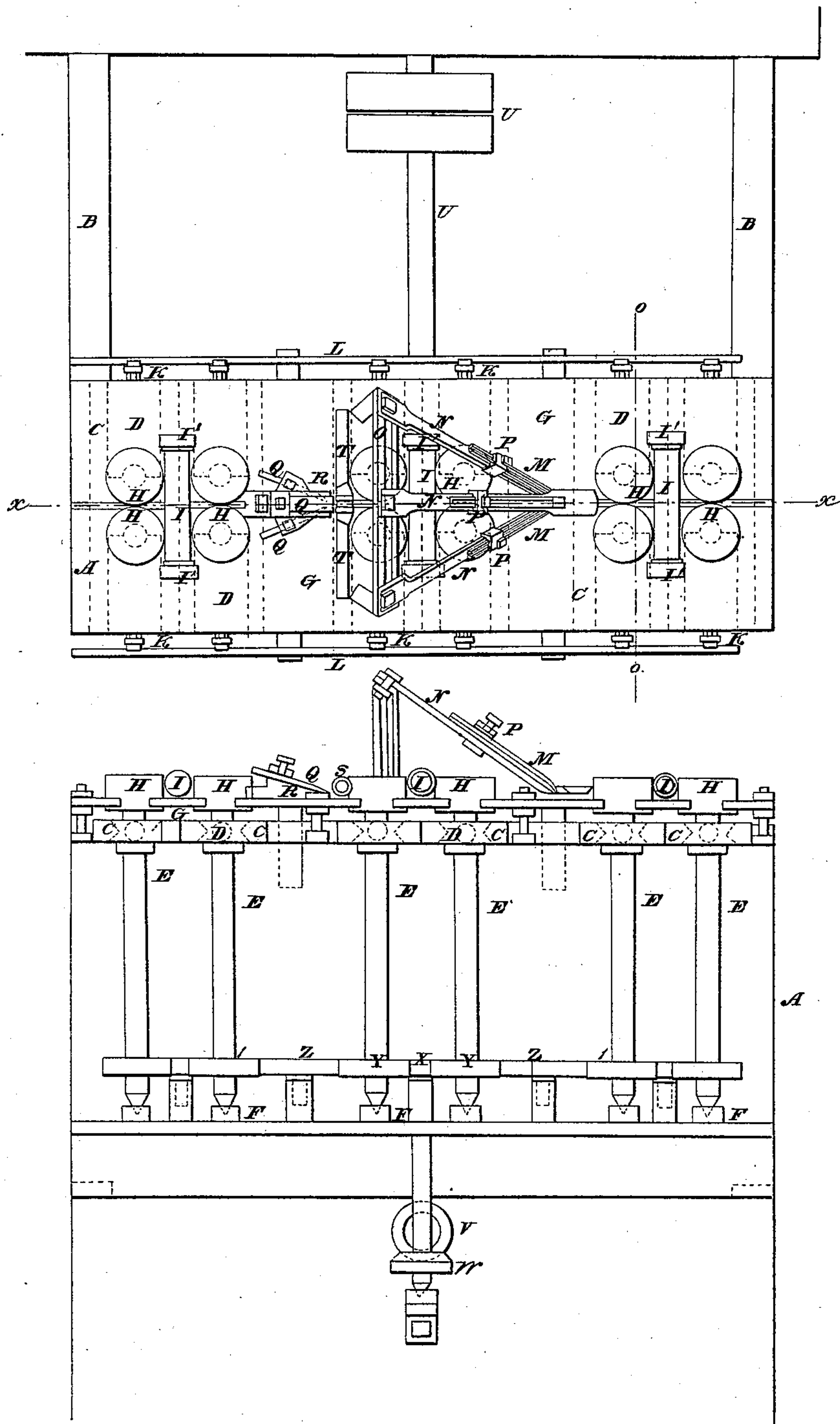
C. C. Reed,

Working Rattan.

N^o 13,627.

Patented Oct. 2, 1855.

Fig. 1.



C. C. Reed,

2 Sheets. Sheet 2.

Working Rattan.

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Fig. 3.

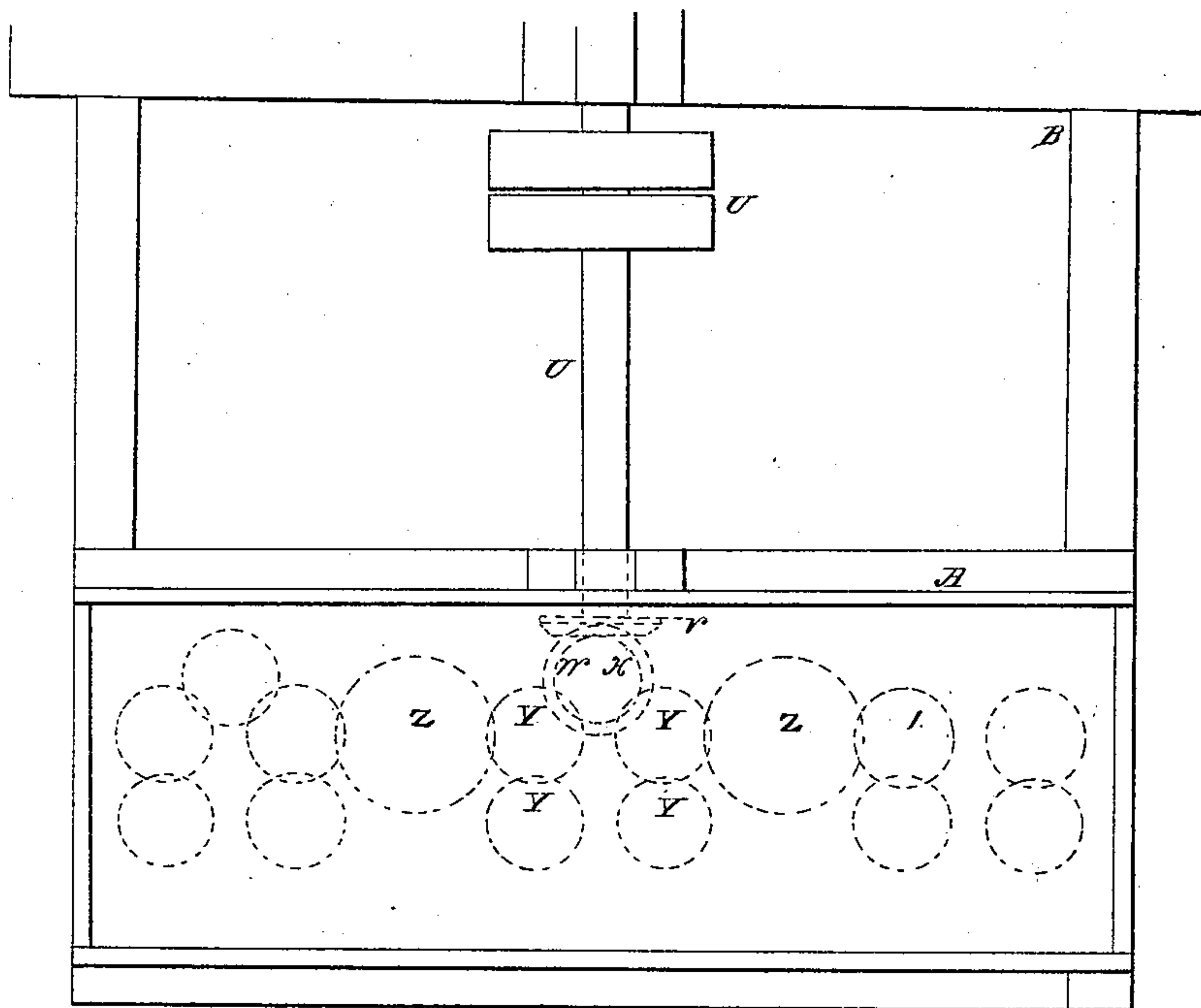


Fig. 4.

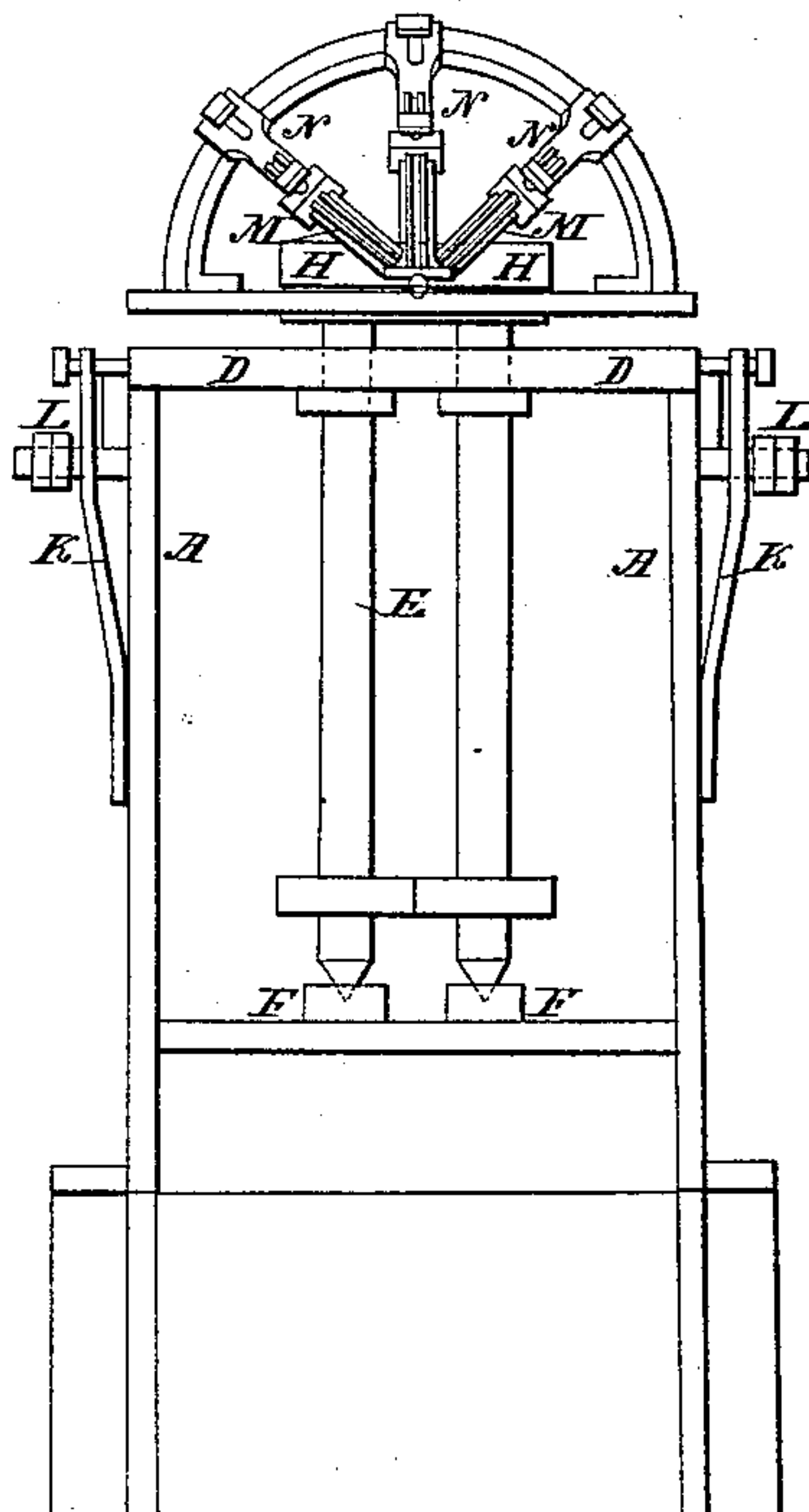
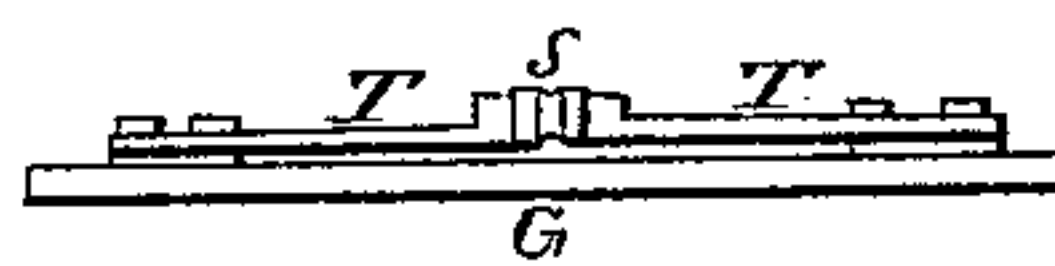


Fig. 5.



UNITED STATES PATENT OFFICE.

C. C. REED, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO C. C. REED AND WM. S. REINERT.

MACHINE FOR PREPARING RATANS, &c.

Specification of Letters Patent No. 13,627, dated October 2, 1855.

To all whom it may concern:

Be it known that I, CHARLES C. REED, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Machines for Splitting and Planing Canes for Umbrellas, Parasols, and other Purposes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a top or bird's eye view of the improved machine. Fig. 2, is a vertical section through the center of ditto, at the line *x x* of Fig. 1. Fig. 3, is a horizontal section of ditto, the positions of the cog wheels being indicated by dotted lines. Fig. 4, is a vertical section of ditto, at the line *o, o*, of Fig. 1. Fig. 5, is a section of the upper plate, and flexible supports in which the grooved guide roller turns.

Similar letters in the several figures refer to corresponding parts.

The nature of this invention and improvement consists in combining with the upright rollers, for feeding and guiding the ratan, or other material from which the canes are formed, to the cutters, an adjustable table or plate, capable of being raised and lowered to conform at all times with the grooves in the said upright rollers; and also in arranging at the sides of the machine horizontal adjustable bars, so situated in relation to the flexible portions of the springs, which press the upright feeding and guiding rollers together, as to enable them to be graduated to any desired distance from the springs, to correspond with the thickness of the ratan passing between the rollers, so as to arrest the outward movement of the lower and more flexible portions of the springs, when the rollers have moved from each other, the required distance to admit the ratan between them, thus preventing one of them from moving farther from the center of the table or plate than the other, and yet allow a slight and strong elastic movement to the springs, above the bars, after they strike said bars, to enable the rollers to give to the inequalities on either side of the ratan, as it passes between the same.

To enable others skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

The main portion of the frame A is made

of a rectangular form of iron or other suitable material, secured to horizontal timbers B, fixed to the floor of the building in which the machine is placed and consists of two upright side plates connected together at near their lower edges by a horizontal plate, and at their upper edges by horizontal plates or bars, C, secured to the upper edges of the upright plates by bolts at their forked ends and so formed as to serve as guides for movable slide plates D, having half boxes at their ends, in which, and similar half boxes formed in the parts of said plates or bars between the prongs, the upright roller shafts E, turn, said sliding plates moving between the V-shaped edges of the prongs, after the manner of the ordinary lathe sliding rest, as represented in Fig. 2, and by dotted lines in Fig. 1. The lower ends of the upright roller shafts E, turn in steps F, secured on the upper surface of the horizontal plate G, of the frame, being provided at near their upper ends with shoulders below the boxes, for preventing them from rising from their steps. The rollers H, are twelve in number, and are arranged in pairs one pair to each forked plate, so as to bring them immediately opposite each other, with their peripheries almost touching and two pair to be in close proximity at the center, and two pair in the same relation to each other near the front and back parts of the machine.

The rollers H, revolve in openings, in the upper horizontal adjustable plate G, forming the top of the machine, sufficiently large to allow them to move sidewise, when the ratan or cane is being drawn between them, and the front and center pairs have grooves formed in their peripheries, corresponding with the form of the ratan or cane embraced between them, immediately on a line with the upper surface of the plate G, which is likewise grooved so as to assist in keeping the cane or ratan from moving out of a straight line in its passage over the surface of the said plate. This plate G, is secured above the main portion of the frame, by means of vertical screw bolts, fastened to the ends and at intermediate points of the upper edges of the side plates of said main portions of the frame, and passing through openings in the plate G, being provided with nuts above and below the plate, for the purpose of enabling said plate to be

raised and lowered to adjust the groove in its upper surface, to the grooves in the rollers, and secure it firmly when thus adjusted. This adjustment of the upper surface of the plate G to the grooves in the rollers, is not only desirable at the time of putting the machine together, but is essentially necessary at subsequent periods, of the use of the machine, when the steps, and lower ends of the upright shafts E, turning in the same wear to such a degree, as to cause the grooves in the rollers to descend below the point they should assume in relation to the groove in the upper surface of the said adjustable plate G.

In addition to the advantages here set forth, it may be stated that this combination of the adjustable plate or table G, with the upright rollers H, admits of the former being raised and lowered to cause the groove in the same, (the lower point of bearing for the cane) to conform with the different thicknesses of cane or ratan, so as to embrace the same firmly, no matter what may be its thickness, on three of its parts, namely—on the upper parts of its two sides, by the upper parts of the grooves in the rollers, and on its lower part by the bottom of the groove in the plate G, the height of this latter in relation to the edges of the upper bits or knives, being so regulated by the adjustable character of the plate G, as to cause the proper sized shavings or peelings for cane seat chairs to be cut from the same, by the first set of bits or cutters, and the cane to be reduced to a uniform size for umbrellas or parasols, by the second set of bits or cutters; or in the event of small canes or ratan being dressed for parasols or sun shades, where it is desirable to have the lower rounded parts exactly fit within the groove in the plate G, and a different and more delicate set of bits or cutters employed, this plate G, with its bits or cutters, may be entirely removed from the machine, and another containing these parts, may be substituted and adjusted to the grooves in the rollers H, so as to cause the upper parts of the same to embrace the upper side parts of these smaller canes or ratans, and press their lower rounded parts firmly in the groove of the plate G.

Horizontal rollers I, are arranged between the two pairs at the front and back part of the plate, and the two pair in the center, which rollers turn in sliding boxes, arranged between upright slides I', having spiral springs between them and pressing upon said boxes so as to enable the rollers to yield to the inequalities of the cane, or ratan and press upon the same sufficiently to keep it in the groove, in the plate G, the front and center rollers H, I, being grooved to correspond with the upper surface of the same. The slides D, are pressed inward,

so as to keep the boxes on their ends, at all times against the upright shafts, E, and enable the rollers H, to be moved from each other to receive the cane between them, by means of springs K, secured at their lower ends to the side plates of the frame, and having set screws at their upper ends, which press against the ends of the slides D, said springs K, being prevented from moving beyond a certain point by horizontal bars L, secured to the sides of the frame, at a sufficient distance from the same to allow the springs to yield to the required degree, and yet serve to keep the rollers H, equidistant from the center line over which the cane or ratan moves.

The bars L, are at all times kept parallel with the side plates of the main portion of the frame, and are secured in their positions by horizontal screw bolts, projecting at right angles from upright plates, secured to the said side plates of the frame, which screw bolts pass through openings in the bars L, and have nuts screwed on them outside the same, to enable the said bars to be moved nearer to, or farther from the side plates and springs K to correspond with the thickness of the ratan to be dressed. These side bars L, are situated a short distance above a point midway between the upper and lower parts of the flexible portions of the springs, in such a manner as to arrest the outward movement of the lower, or more flexible portions of the springs K, when they have yielded with the rollers, sufficiently to admit the ratan between said rollers (the bars L being previously graduated by the nuts, to correspond with the thickness of the ratan as before stated) and thus keep the said rollers equidistant from the center of the groove, in the center of the adjustable table or plate G, during the progress of the ratan between the same, while at the same time, a slight but stiff elastic movement is allowed to the upper part of the springs K, to allow the rollers to yield to the slight inequalities frequently existing on the sides of the ratan.

The cutter or bits M, for taking off the first shavings or peelings from the upper part of the ratan are secured between the front and center set of rollers H, to inclined flexible bars N, secured at their upper ends by bolts and nuts to a semicircular beveled bar O, fastened to the upper plate G, immediately over the third pair of rollers H, and having a groove or slot formed in the curved part, parallel to its edges, through which and through slots in the flexible bars the bolts pass, so as to enable said boxes to be moved and secured to any part of the curved bar and their lower ends raised or lowered to suit any thickness of ratan or cane, or as occasion may require. The spring bars N, are enlarged at their

lower ends and are perforated somewhat after the manner of a plane stock, so as to press against the upper portion of the cane, or ratan, and besides assisting to hold it firmly while being cut, regulating the thickness of the shavings or peelings taken off. The cutters, or bits M, are secured on top of these spring bars N, by means of clamps P, surrounding them and the bars N, pressed upon the cutters or bits, by set screws in such a manner, as to enable them to be removed for sharpening or for other purpose, and raised and lowered over the surface of the bars, to bring their edges to the proper relation to the lower surfaces of the enlarged ends of said bars, to regulate their depth of cut. The second cutters or bits Q, are secured in a stock fastened to the upper surface of the horizontal plate G, between the center and back set of rollers H, in the ordinary or most approved manner. They are arranged in an angular and inclined position in openings in the stock R, so as to bring their edges in such relation to each other as to cut or plane the top and sides of the cane parallel and at right angles, as it is drawn or forced past the same, and are secured in the stock by set screws, which enable them to be detached from the stock to sharpen them, or for other purpose, or raised and lowered to regulate their depth of cut and consequently the size of the cane formed. Immediately in front of these cutters or bits Q, is arranged a grooved roller S, turning in boxes formed in the extremity of elastic spring bars T, secured to the top of the upper plate for holding the ratan or cane firmly, on the said plate, near the edges of the cutters or bits.

The upright rollers H, receive their motion from a horizontal shaft U, having pulleys U', which are geared to the main driving power, near one end, and a bevel cog wheel V, at its opposite end which meshes in gear with a similar bevel cog wheel W, secured near the lower end of an upright shaft, on the upper end of which is a cog wheel X, which meshes in gear with cog wheels Y, near the lower end of two of the center set of upright roller shafts, which in turn mesh in gear with corresponding cog wheels Y', near the lower end of the upright roller shafts, immediately opposite and with larger cog wheels Z, meshing in gear with cog wheels 1, near the lower ends of two of the end set of upright roller shafts, which end set of shafts being geared together by cog wheels in a similar manner, to the center set, receive a corresponding motion when power is applied to the machine.

The operation of this machine is as follows: Motion being communicated to the several moving parts, in the manner just stated the pieces of ratan or cane are suc-

cessively introduced between the front pair of rollers H, the springs K, yielding and allowing them to move from each other sufficiently to receive and embrace the same between the grooves in them, and are forced under the first yielding roller I, and between the next pair of rollers H, and under and between the edges of the first elastic cutters or bits M, which take the uniform shavings, or peelings from their upper surfaces, required for cane seat chairs, or for other purposes, and between the next or center set of rollers H, and under the rollers I, S, and under and between the second cutters, or bits Q, which cut or plane the top and sides of the ratan or cane, to the proper form required, and they are forced or drawn between the last, or back set of rollers H, thoroughly planed—the several rollers H, I, S, serving to hold the ratans or canes in a straight line and preventing them from twisting to either the right or left in their passage between and under them, and thus enabling them to be cut perfectly straight, without regard to their original inequality or surface or bend, or twist, and the two sets of cutters or bits enabling them to be cut with much less power, and greater facility, besides obtaining a set of shavings or peelings of uniform thickness, width and length, from them, suitable for chair seats, or for other purpose, at the same time that they are planed without injury to the body of the cane, an object never before accomplished; for in the machines heretofore employed for splitting or planing canes, the body of the cane was wholly or in part destroyed or injured in stripping the shavings or peelings for chairs from it, or in the event of it being subsequently planed it was impossible to form it to the proper shape for a practicable purpose.

Having thus fully described the construction and operation of the improved machine for stripping and planing umbrella and other canes, what I claim therein as new is,

1. The combination of the adjustable table or plate G, with the upright feeding and guide rollers H, for enabling the upper surface of said table or plate, to be graduated to the grooves in the rollers, substantially in the manner and for the purpose herein set forth.

2. I claim arranging the adjustable side bars L, in such relation to the upper and lower parts of the flexible portions of the springs K, as to enable them to be graduated, so as to arrest the outward movement of the lower flexible portions of said springs, at such points as to allow the rollers to yield sufficiently to receive and embrace the ratan between them, and yet prevent one of them from moving farther from the center than the other, so as to keep the ratan at all times in the center groove, and

at the same time allow a slight and stiff
elastic movement to the upper portions of
the springs, above the bars, to allow either
of the rollers to yield to the inequalities on
5 either side of the ratan as herein fully set
forth.

In testimony whereof, I have hereunto

signed my name before two subscribing
witnesses.

C. C. REED.

Witnesses:

EDMUND MAHER,
CHARLES D. FREEMAN.