(No Model.)

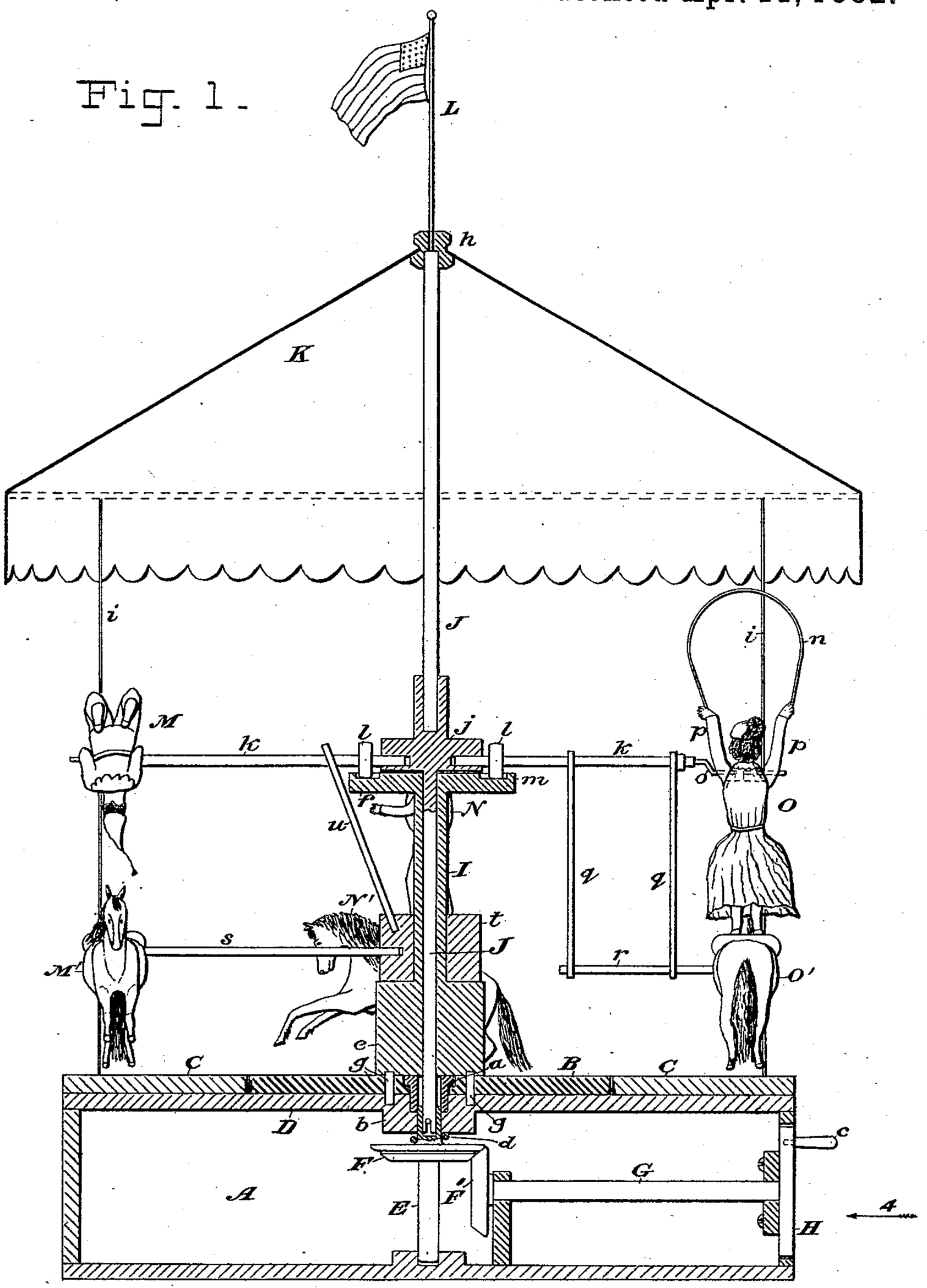
3 Sheets—Sheet 1.

W. W. BARNES.

TOY CIRCUS OR ARENA.

No. 256,192. Patented Apr. 11, 1882.

Fig. 1.



WITNESSES:

E. B. Bolton

Geo. Bainton.

INVENTOR:

Wesley W. Barnes,

By his Attorneys,

Burke, Fraser & Connolly

(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

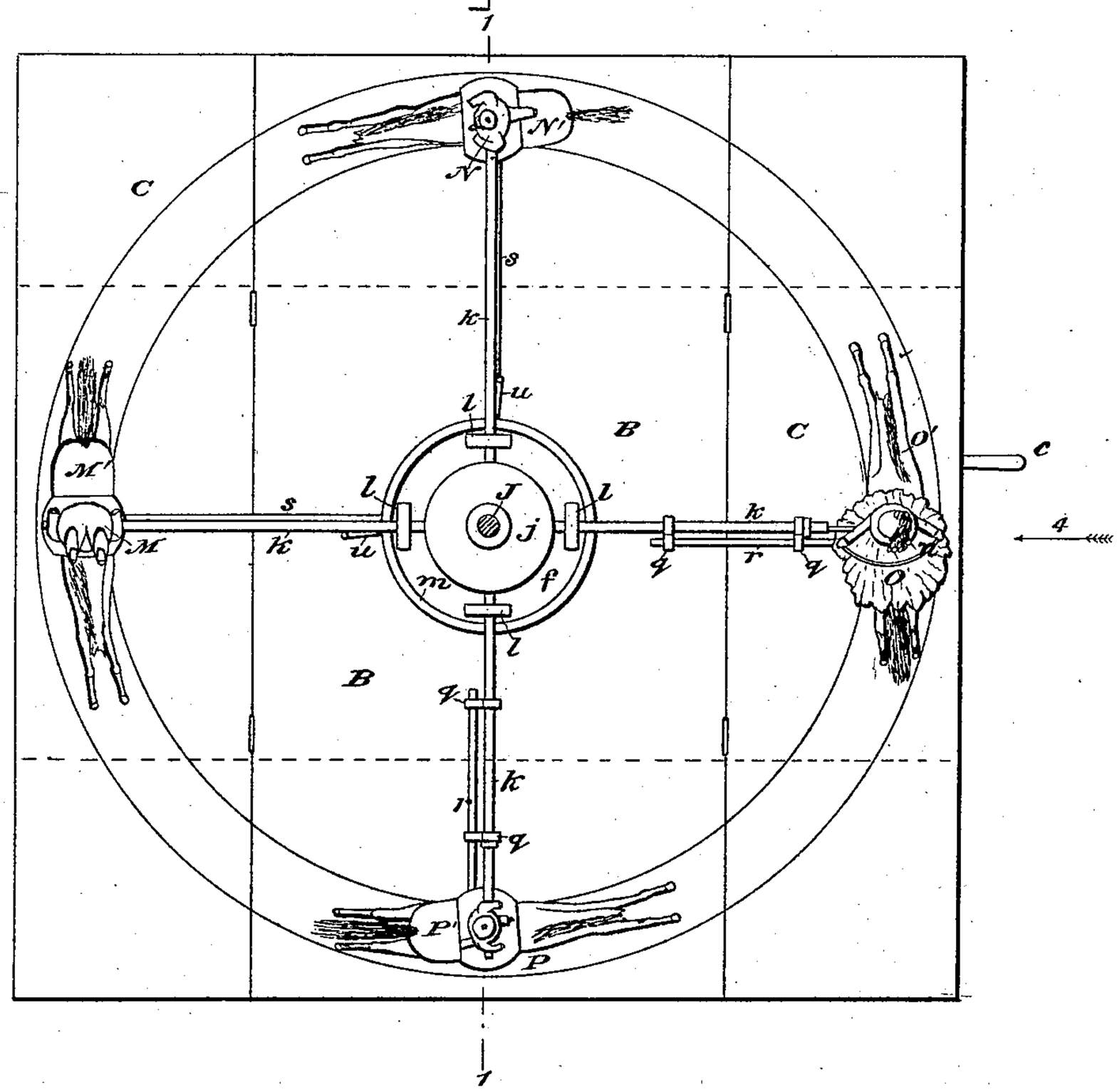
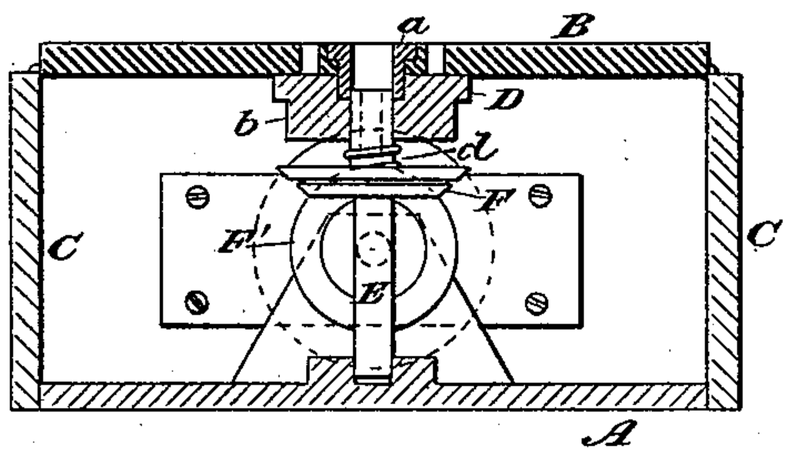


Fig. 3.



WITNESSES:

E. B. Bolton

Geo. Bainton

INVENTOR:

Wesley W. Barnes,

By his Attorneys,

Burke, Fraser & Bonnett

(No Model.) 3 Sheets—Sheet 3.

W. W. BARNES.

TOY CIRCUS OR ARENA.

No. 256,192. Patented Apr. 11, 1882.

Fig. 4.

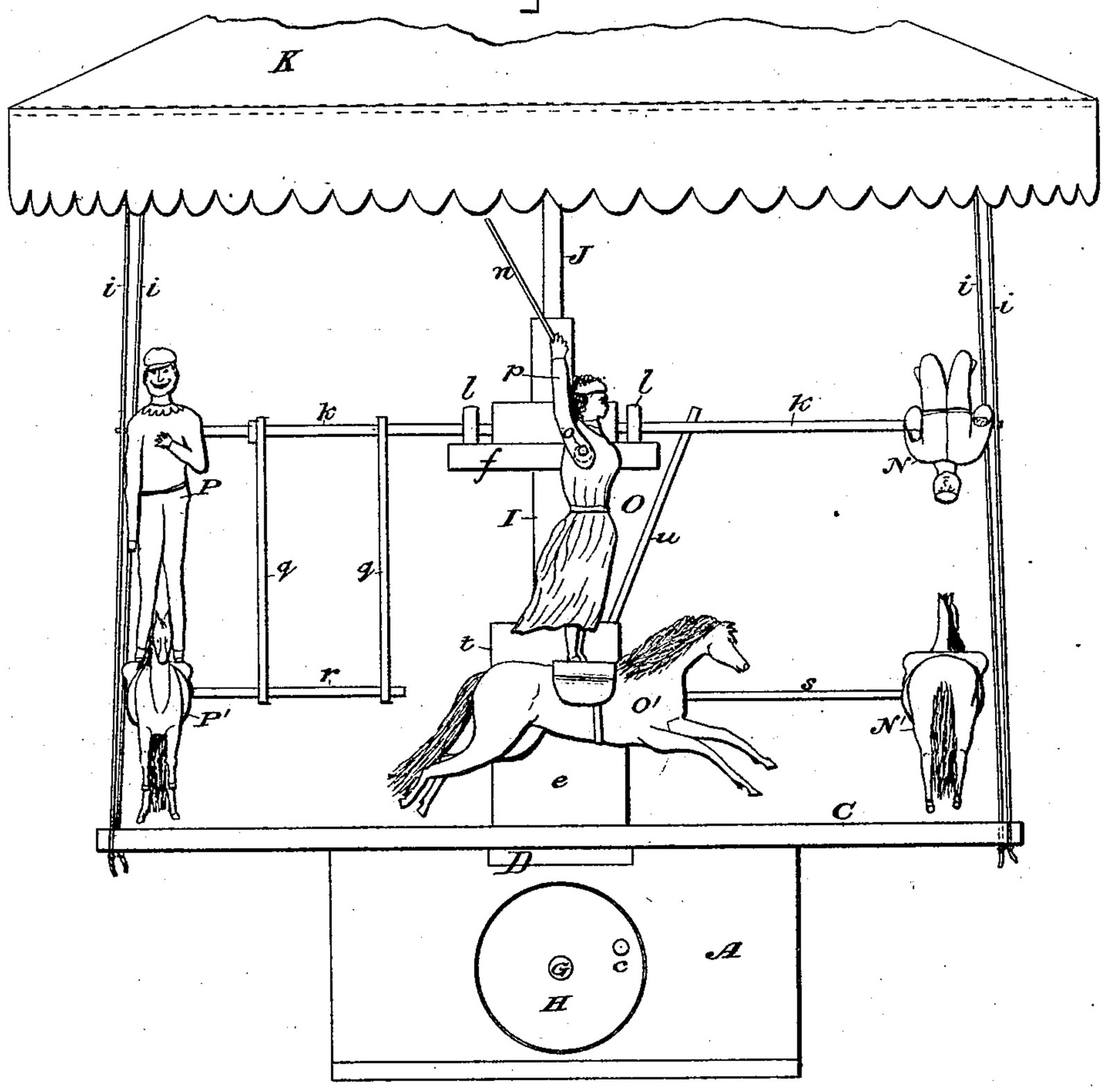


Fig. 5.

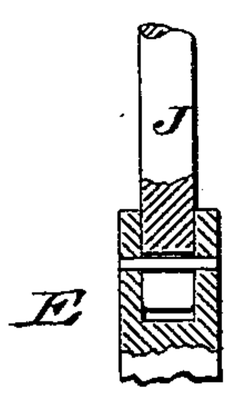


Fig. 6.

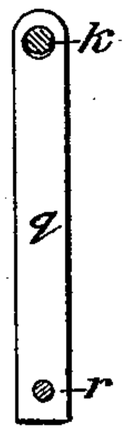
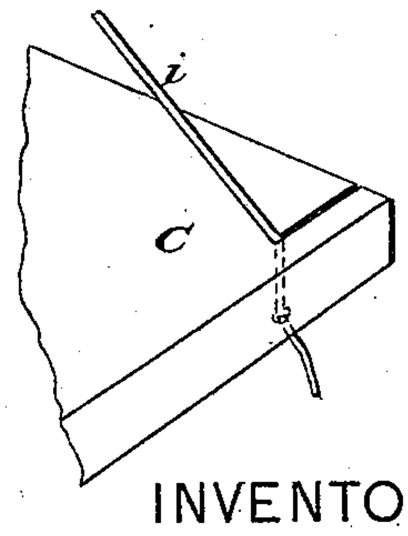


Fig. 7.



WITNESSES:

E. B. Bolton

Geo. H. Bainton.

INVENTOR:

Wesley W. Barnes,

By his Attorneys,

Burke, Fraser & Connett,

UNITED STATES PATENT OFFICE.

WESLEY W. BARNES, OF NEW YORK, N. Y., ASSIGNOR TO STIRN & LYON, OF SAME PLACE.

TOY CIRCUS OR ARENA.

SPECIFICATION forming part of Letters Patent No. 256,192, dated April 11, 1882.

Application filed January 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, WESLEY W. BARNES, of New York city, New York, a citizen of the United States, have invented an Improved Toy Circus or Arena, of which the following is a specification.

This invention relates to that class of toys in which figures are made to move and perform acrobatic or gymnastic feats automatically by simply turning a crank.

One of the important features of the invention consists in the peculiar construction and organization of the whole, whereby it may be readily taken apart and packed in the box which forms the base-piece or support for the operative parts.

The novel features of the invention will be definitely set forth in the claims.

In the drawings which serve to illustrate my invention, Figure 1 is a vertical mid-section of the toy in the plane of the line 1 1 in Fig. 2, the figures being in elevation. Fig. 2 is a plan of the same, the tent being removed. Fig. 3 is a cross-section of the box forming the base of the toy, the section being taken in a plane at right angles to that of Fig. 1. Fig. 4 is an elevation of the lower portion of the toy, looking in the direction of arrow 4 in Figs. 1 and 2. Figs. 5, 6, and 7 are detached views, which will be referred to more particularly hereinafter.

A is an oblong box to contain the driving mechanism, and to form a receptacle in which the separable elements of the toy may be packed for the purpose of economizing space. For convenience the length of the box is made equal to twice its width and to four times its depth. This is in order that the box-cover B and the sides C C, hinged to said cover, may be made to inclose the box, as shown in Fig. 3, or be turned around, as in Figs. 1, 2, and 4, so as to form a large square platform or arena. D is a bar which extends across the top of the box A lengthwise, and in this is fixed a tubular pintle, *a*, having a flange at its top, which takes into a recess in the cover B. The cover turns on this pintle, and is kept down by the flange thereon.

E is an upright shaft, which bears a friction bevel-wheel, F. The lower end of this shaft has a step or bearing in the bottom of the box, and the upper end has a bearing in the tubular pintle *a*, or a block, *b*, as shown in Figs. 1 and 3.

G is the horizontal driving-shaft, which is mounted in suitable bearings in the box, and has a friction bevel-wheel, F′, that engages the wheel F.

H is a crank wheel or disk on the shaft G, which rotates in an aperture in the end of the box A, so as to be flush on the outside, and yet fill said aperture, and *c* is a crank-pin or handle inserted removably in the same, so that it may be readily taken out. A spring, *d*, is interposed between the wheel F and block *b*, to keep the said wheel pressed down elastically against the wheel F′.

I is the tubular standard, which has an enlarged base, *e*, to rest upon the cover B, and a circular track-disk, *f*, fixed or formed on its upper end. The base *e* has dowels *g*, which, when the cover B is turned, as in Fig. 1, pass down through holes in said cover and coinciding holes in the piece D, and thus serve to hold the standard I fast and steady and to prevent the cover B from turning until these pins are withdrawn.

J is a central vertical shaft or spindle which passes down through the non-rotative standard I. Its lower end is slitted or forked, as shown in Figs. 1 and 5, and this fork engages a cross-pin in the tubular or socketed upper end of the shaft E, whereby the rotation of said shaft E compels the rotation of said spindle J. The upper end of the spindle J rotates in a nave or boss, *h*, which forms the center of a tent, K. This tent is by preference circular, and in its outer edge or periphery is fixed a hoop of flexible and elastic steel wire, or other similar flexible material which will keep it properly distended when mounted. This tent is steadied, by preference, by means of four cords, *i i*, which are attached to the tent and their lower ends drawn tightly into narrow slits cut into the corners of the sides C, as best shown in Fig. 7. In a socket in the top of the spindle J is or may be set a flag and staff, L, which turns with said spindle.

M, N, O, and P are acrobats or gymnastic equestrian figures, and M′, N′, O′, and P′ are their respective horses or other animals. I have shown two modes of mounting the horses, and will hereinafter describe first the preferred mode, in which the horses O′ and P′ are shown as mounted. Fixed on the spindle J, or formed in one with its lower portion, is a boss, *j*, in which are radial sockets or bearings for radial shafts *k*, which bear the several figures M, N, O, and P. On these shafts are fixed track-wheels *l*, which, when the spindle J is revolved, travel around on the disk *f*, and thus rotate the shafts *k* at the same time that they are carried around. At the outer edge of the disk *f* is a raised ledge, *m*, which serves to prevent the wheels *l* from running over and off the edge of the disk. The three figures M, N, and P are simply vaulters, and they are fixed on the ends of their respective shafts *k*, and their legs are loosely pivoted to their bodies. As the shafts *k* turn these figures turn in the air, their feet lightly touching the backs of their horses at each revolution. The female figure O skips a rope represented by the hoop *n*. This is effected by fixing in the end of a shaft, *k*, a crank, *o*, and fixing on this crank the arms *p* of the figure. The crank runs through a large aperture in the figure, which latter is so weighted below as to swing always vertical on said crank. The feet of the figure, when at rest, as in Fig. 1, touch the saddle or pad on the horse; but when the shaft *k* revolves the crank raises the figure a little vertically, and at the same time swings the arms *p* around, and with them the hoop *n*. The hoop is thus caused to pass under the feet of the figure.

The horses O′ and P′ are mounted as follows: Two suspenders, *q*, (see Figs. 1, 2 and 6,) are hung loosely on the shaft *k*, and to the lower end of these is fixed rigidly a rod, *r*, on the end of which is fixed the horse. By this construction the horse is carried around with the shaft *k* and caused to swing a little by the movement, whereby a lifelike appearance is imparted. Suitable pins through the shaft *k* prevent the slipping of the suspenders out of place thereon. This is the preferred mode of mounting the horses. The horses M′ and N′ are mounted in a little different manner. These horses are fixed on radial rods or stems *s*, the inner ends of which are fixed in a collar, *t*, which turns loosely on the standard I. Other rods, *u*, fixed at their lower ends in the collar *t*, extend upward, and when the shafts *k* are carried around they engage said rods *u*, and thus carry the horses around in unison with themselves.

One notable feature of the invention may be observed. The shafts *k* are rotated merely by the traction of the wheels *l* on the disk *f*, and when the figures turn and their feet touch lightly upon the backs of the horses the figures will usually rest a moment in this position until the traction becomes sufficient to turn them. Sometimes a figure will stand quiescent for a considerable time and then vault, and this uncertainty of the vaulting lends the charm of realism to the toy.

When it is desired to dismantle and pack the toy the flag L is removed, the tent-cords *i* loosened, and the tent removed and folded up. The upper portion of the spindle J is drawn from its socket in the boss *j*, and the shafts *k* drawn from their sockets in the same. The play of these in their sockets permits the wheels *l* to be lifted over the low flange *m*. The rods *s* and *u* may also be removed and the standard I removed by lifting the dowels *g g* from their sockets. All of the parts, including the crank-pin *c*, may be packed in the box and the cover B turned, as in Fig. 3. The sides C are then folded down, and may be secured in any good way.

I do not wish to limit myself to the precise construction and arrangement of parts herein shown, as this may be varied to some extent without departing materially from my invention—as, for example, cogged gears might be employed in lieu of the friction-wheels F F. I prefer the friction-wheels, however, as they are cheaper, and a positive driving-gear is not required.

I claim as my invention (which I have assigned to Stirn & Lyon, of New York city) the following:

1. A toy circus or arena comprising a base with rotative driving-gears, a vertical rotative shaft, a non-rotative standard bearing a track-disk, a radial shaft having a bearing in the boss on the vertical shaft and bearing a wheel arranged to roll over the track-disk, and a figure fixed or mounted on the end of said radial shaft, all constructed and arranged to operate substantially as set forth.

2. In a toy circus or arena, the box in which the toy is packed, provided with a cover mounted on a pintle at its center, and arranged to turn horizontally on the box, as shown, and with two sides hinged to the cover, all as set forth, whereby an extended platform is formed from the materials of the box, substantially as and for the purposes set forth.

3. In a toy circus or arena, the combination, with a vertical rotative shaft and a non-rotative track-disk around the same, of a shaft, *k*, provided with a track-wheel, *l*, and crank *o*, and a figure, O, hung on said crank, and having its arms *p* fixed on said crank, all arranged to operate substantially as set forth.

4. In a toy circus or arena, the combination, with a vertical rotative shaft and a track-disk surrounding same, of a radial shaft, *k*, provided with a track-wheel to roll on the track-disk, a figure fixed on the end of said shaft, *k*, suspenders *q*, hung on the said shaft *k*, and bearing a rod, *r*, the said rod *r*, and the figure of a horse or other animal fixed on the end of said rod *r*, all arranged to operate substantially as set forth.

5. The box A, arranged to form a base and receptacle for a toy circus or arena, in combination with the main driving-shaft, the ver-

tical shaft, the bevel-gears, the recessed crank-wheel H, and the removable crank-pin *c*, all arranged substantially as set forth.

6. The combination, with the box A, provided with the bar D, and the pivoted cover B, of the tubular standard I, provided with a dowel or dowels, *g*, arranged to pass through the cover B and into sockets in the bar D when the cover is turned crosswise, whereby the standard is held in place and the cover prevented from turning, as set forth.

7. The combination, with the box and its pivoted cover and hinged sides, of the internal driving-gear, the doweled standard provided with a track-disk, *f*, the shaft J, having a forked end to take in a socket in the shaft E, the shafts *k k*, provided with wheels *l l*, and the vaulting figures fixed on the ends of the shafts *k*, all arranged to operate substantially as set forth.

8. In a toy circus or arena, the combination, with a horse or other animal borne around in a ring, of a vaulting figure with loosely-hinged legs mounted on the end of a radial rotating frictionally-driven shaft and borne around the ring over the horse, whereby the figure is caused to touch the horse with its feet at each vault, substantially as and for the purposes set forth.

9. The combination, with the shaft J, of the tent K, provided with a flexible elastic distending hoop and cords *i*, the box A, the pivoted box-cover B, and the hinged sides C, provided with slits to receive the tent-cords, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WESLEY W. BARNES.

Witnesses:
HENRY CONNETT,
ARTHUR C. FRASER.