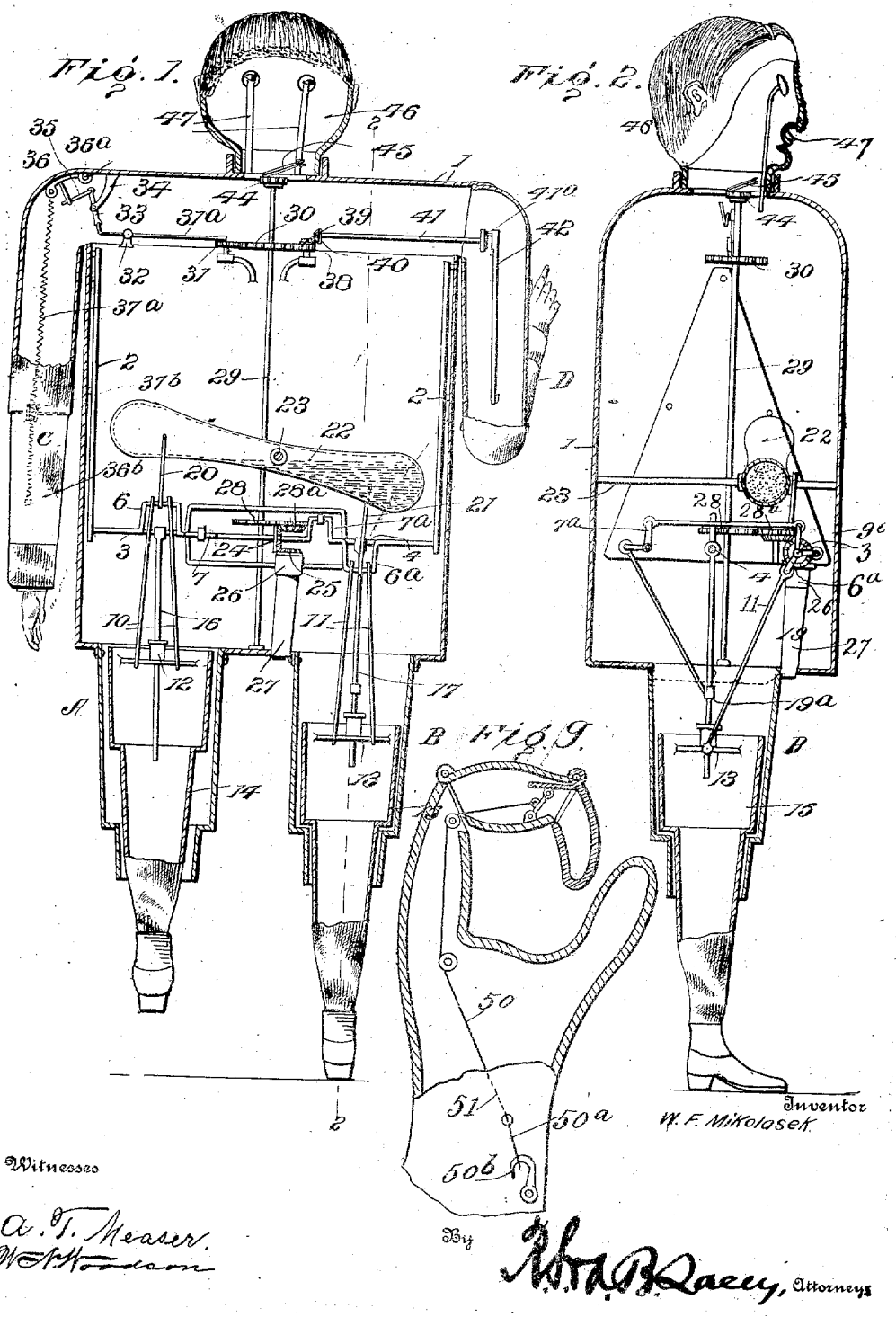
No. 882,403. PATENTED MAR. 17, 1908.

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TOY.

APPLICATION FILED JULY 26, 1907.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

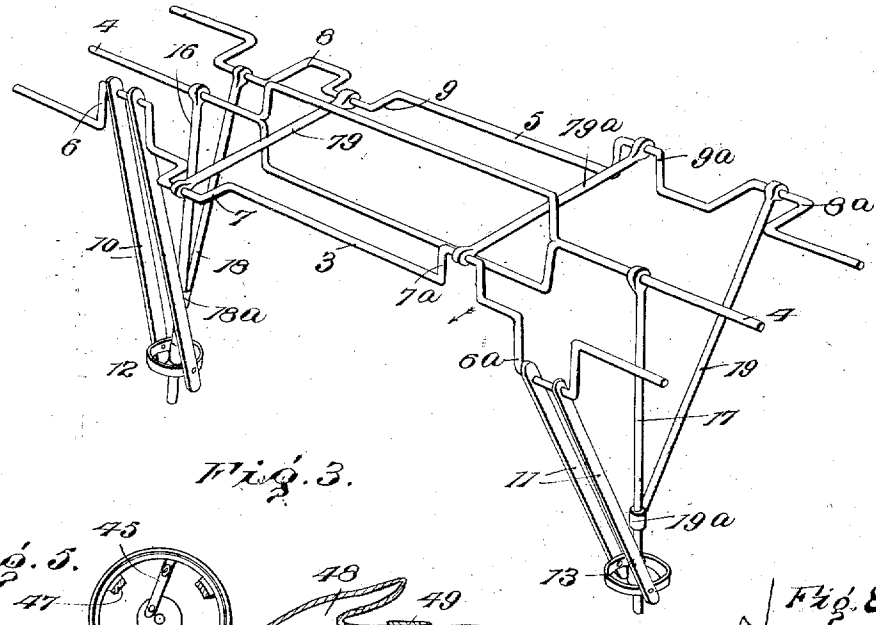
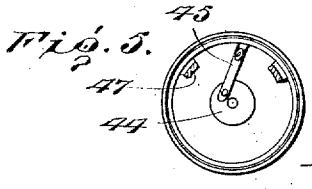


Fig. 3.



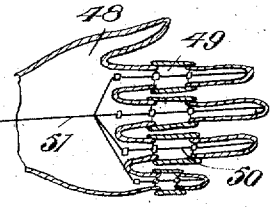


Fig. 5.

Fig. 7.

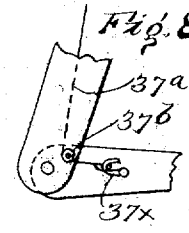


Fig. 8

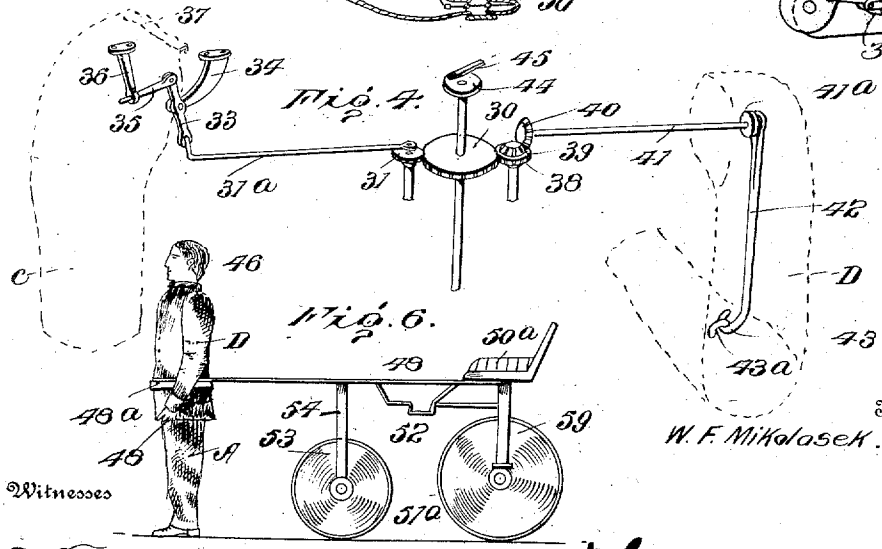


Fig. 4.

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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TOY.

No. 882,403. Specification of Letters Patent. Patented March 17, 1908.

Application filed July 26, 1907. Serial No. 385,722.

To all whom it may concern:

Be it known that I, WENCESLAUS F. MIKOLASEK, a citizen of the United States, residing at Vodnany, in the county of Bonhomme and State of South Dakota, have invented certain new and useful Improvements in Toys, of which the following is a specification.

This invention contemplates certain new and useful improvements in automatic toys of that type in which the toy simulates a human or other figure and is arranged to walk, and the invention has for its object an improved construction of toy of this type which will be positive in action and of comparatively simple construction and capable of a variety of uses and motions.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a vertical sectional view of my improved walking toy. Fig. 2 is a similar view on the line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of the leg actuating rods and their connections. Fig. 4 is a similar view of the arm actuating parts. Fig. 5 is a detail view of one portion of the arm actuating mechanism. Fig. 6 is a view illustrating one application of the toy. Fig. 7 is a detail view of one of the hands. Fig. 8 is a detail view of one of the arms of the toy. Fig. 9 is a detail view of a jointed hand.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The casing 1 of my improved walking toy may be constructed of any desired material and formed in any desired shape so as to simulate preferably the body portion of a man. Within the casing 1 are two main standards 2 that are substantially triangular, as best seen in Fig. 2. Supported in the lower ends of the two standards 2 are three shafts or rods, designated 3, 4 and 5, respectively, the said rods being arranged parallel. The rods 3 and 5 are mounted to rotate, but the middle rod 4 is stationary. The rod 3 is provided with two relatively large cranks 6, 6^a, set at about one hundred and eighty degrees from each other, and said rod is also formed with two relatively small cranks 7 and 7^a set at ninety degrees from each other. The rod 5 is similarly provided with cranks 8, 8^a that are one hundred and eighty degrees apart and ninety degrees from their complemental cranks 6 and 6^a, and the rod 5 is also formed with two relatively small cranks 9, 9^a set parallel to the cranks 7, 7^a, respectively. The cranks 7 and 9 are connected together by a rod 79 and the corresponding cranks 7^a and 9^a are connected by a similar rod 79^a.

A pair of bars 10 is suspended from the crank 6, a similar pair of bars 11 is suspended from the crank 6^a and the lower ends of the respective pairs of bars 10 and 11 are attached to couplings 12, 13, secured in the movable sections 14, 15, of the two legs A and B of the figure. A hanger rod 16 depends from the rod 4, and a similar rod 17 depends from the rod 4 at a point in alinement with the crank 6^a, the rod 16 being in alinement with the crank 6. A pitman 18 is swung from the crank 8 and has a sliding connection with the hanger rod 16, and a similar pitman 19 is swung from the crank 8^a and has a sliding connection with the hanger rod 17. These sliding connections in the present instance are constituted by collars 18^a and 19^a, slidingly mounted on the respective rods 16 and 17.

In the practical operation of walking, it being understood that the main upper portions of the legs A and B are hinged to the lower end of the body portion or casing 1, the rotation of the shafts or rods 3 and 5 will result in alternately lifting the bars 10 and 11, it being understood that one leg is resting on the ground and practically motionless, while the other leg is being raised and carried forward and again lowered in contact with the ground. If the leg with the bars 11 is the stationary leg upon which the device is rested while the other leg is moved, the bars 10 will raise the leg A and at the same time the pitman 18 will first swing the leg forwardly and then permit it to assume a vertical position at an advanced point as the bars 10 are again lowered.

In order to form a poise or weight for the figure during the operation of walking so that it will rest in a stable condition on one leg while the other is advanced, I connect

the cranks 6 and 6ª with rods 20, 21, that are respectively connected to the ends of a tank or casing 22 mounted with a free and vertically rocking motion upon the forward and rearwardly extending shaft 23. This casing contains sand, and as it is tilted from side to side under the influence of the cranks and the rods 20 and 21, it is manifest that the preponderance of weight of the sand on the lower side or end of the tank will throw the proper amount of weight on the leg which is on the ground while the other leg is being carried upwardly and forwardly.

In order to actuate the various parts, the shaft or rod 3 may be provided with a miter gear wheel 24 meshing with a similar gear wheel 25 driven by a spring or other motor 26, said motor being supported on a standard 27 in the lower end of the body portion or casing 1.

The miter gear wheel 24 also meshes with a similar gear wheel 28ª provided with a spur periphery which meshes with the spur pinion 28 on the vertically extending shaft 29 journaled in the casing. The shaft 29 is provided at the upper end of the casing with a spur pinion 30 meshing with a similar pinion 31 to which a pitman 31ª is eccentrically connected at one end. The pitman 31ª projects through a bearing 32 and has free movement therein, and the opposite end of the pitman is connected to a lever 33 fulcrumed intermediate of its ends on a depending arm 34 secured to the upper portion of the casing 1. The lever 33 is connected by a link 35 to a rod 36 which is rigidly connected to the interior of the arm C. This arm is jointed at the elbow and is pivotally connected at the shoulder, as at the point 36ª, with the top of the casing 1. As shaft 29 turns it is obvious that the pitman 31ª will impart a rocking motion to the lever 33 and this will effect a sidewise motion of the arm C, that is, to and from the figure. The arm may be crooked at the elbow by means of a cord or the like 37ª suspended within the arm from the point 36ᵇ and extending around a wheel 37ᵇ close to the joint when the loop on the opposite end of the arm is slipped over the hook 37× of the forearm. At a point diametrically opposite the pinion 31, a similar pinion 38 meshes with the pinion 30. The pinion 38 is mounted on the same shaft with a miter pinion 39 and the latter meshes with a similar pinion 40 on the shaft 41. The shaft 41 carries at its outer end an eccentric 41ª to which the pitman 42 is connected, said pitman being located in the upper portion of the other arm D. This arm is provided with a joint at the elbow, and the pitman 42 is provided with a hook 43 designed for detachable engagement with a loop 43ª in the fore-arm of the right arm, so that the said arm may be moved up and down and the toy used as an organ grinder or a peanut roaster, or the fore-arm may drop and hang down freely, by detaching the hook 43 from the loop 43ª.

Above the pinion or spur gear 30, the shaft 29 carries a relatively small wheel 44 to which a link 45 is eccentrically connected at one end. The other end of this link is pivotally attached to the head 46 of the figure, said head turning in a horizontal plane within the upper portion of the casing. As the rod 29 turns, it is obvious that the head also gives a back and forth sidewise motion. Stationary arms 47 carry preferably stationary eyeballs so that as the head turns from side to side, the toy will have the appearance of rolling the eyes.

As illustrated in Figs. 7 and 9, the hands 48 of the toy are preferably provided with jointed fingers 49 and they are provided with a cord 50 connected to a common cord 51, the latter being provided with a hook 50ª that engages with a small loop 50ᵇ on the wrist or palm portion of the hand so that the cord may be drawn tight and the fingers fixed around some object.

As illustrated in Fig. 6, the device may be used as a Japanese coolie or jinrikisha man, and he may either have the shafts 48 of the vehicle held in his hands or connected to the body by a waist belt 48ª. This figure is mounted on rear traveling wheels 59 and is provided with a seat 50ª. It is also provided with one or more steps 51ª and 52. Preferably also a standard 54 depends from the device at a point in advance of the main wheel 59, an auxiliary supporting wheel 53 being journaled in an end of the standard so as to support the figure at that point and prevent it from tilting downwardly in a forward direction. Any rearward tilting movement will be prevented by the weight of the figure.

Having thus described the invention, what is claimed as new is:

1. A toy of the character described, embodying a body portion, arms, a head and two legs, the upper portions of which legs are hinged to the body portion, the said legs being provided with relatively movable foot portions, a pair of crank rods mounted in the body portion and each provided with a pair of cranks set opposite each other, the cranks of one rod being in alinement with the corresponding cranks of the other rod, bars connecting the cranks of one rod with the movable portions of the respective legs, and a pitman connected to the cranks of the other rod and having a sliding connection with the said movable portions of the legs.

2. In a toy of the character described, the combination with the casing, of three parallel rods mounted therein, the two outermost rods, being each provided with a pair of cranks, and the cranks of both of said rods

connected together for simultaneous movement, means for rotating said two outermost rods, bars suspended from the cranks of one of the outermost rods, pitmen suspended from the cranks of the other outermost rod, legs having upper portions hinged to the casing and lower portions movable in the upper portions, hanger rods suspended from the intermediate rod, the pitmen having a sliding connection with the said hanger rods, respectively, and couplings connecting the hanger rods to the movable portions of the legs.

3. In a toy of the character described, the combination with the body portion, hinged legs, and the means for moving said legs alternately, said means including a crank shaft, of rods connected to the cranks of said shaft, there being two such cranks, a tank mounted for tilting movement in the casing and containing pulverulent material, the ends of the said tank being mounted over the said legs, and the said ends of the tank being connected to the said rods, respectively, as and for the purpose set forth.

4. In a toy of the character described, the combination of a casing, legs upon which said casing is mounted, a head pivotally supported on said casing, a shaft extending vertically in the casing, means for turning said shaft, the shaft being provided at its upper end with a wheel, and a link eccentrically connected at one end to said wheel and at its other end to the said head.

5. In a toy of the character described, the combination of a casing, legs upon which said casing is mounted, a head pivotally supported on said casing, a shaft extending vertically in the casing, means for turning said shaft, the shaft being provided at its upper end with a wheel, a link eccentrically connected at one end to said wheel and at its other end to the said head, arms held stationary and extending up into the head, and eyeballs carried by said arms.

6. In a toy of the character described, the combination with the body portion, legs and head, of arms connected to the body portion, a shaft extending vertically within the body portion, and provided near the upper end of the body portion with a spur gear, means for turning said shaft, a pinion mounted in the casing and meshing with said spur gear, a pitman eccentrically connected at one end to said pinion, a guide through which the said pitman extends, a lever fulcrumed intermediate of its ends and connected at one end to the pitman, a support for said lever, a link connected at its inner end to the other end of said lever, one of said arms being hinged to the upper end of the body portion and provided on its interior with a rigidly attached rod connected to the outer end of the said link.

7. In a toy of the character described, the combination with the body portion, legs and head, of a shaft extending vertically in the casing, a spur gear wheel mounted on said shaft near the upper end of the casing, a horizontal shaft journaled in the upper end of the casing and having a driving connection with the spur gear wheel, the outer end of said last named shaft being provided with an eccentric, arms connected to the upper end of the body portion, one of said arms being provided with a jointed forearm, and a pitman connected at one end to the eccentric within the upper portion of said arm, the pitman being provided at its lower end with a hook and the forearm of said arm being provided with a loop designed for engagement with said hook.

In testimony whereof I affix my signature in presence of two witnesses.

WENCESLAUS F. MIKOLASEK. [L. S.]

Witnesses:
JAS. A. WAGNER,
V. J. WAGNER.