

No. 681,974.

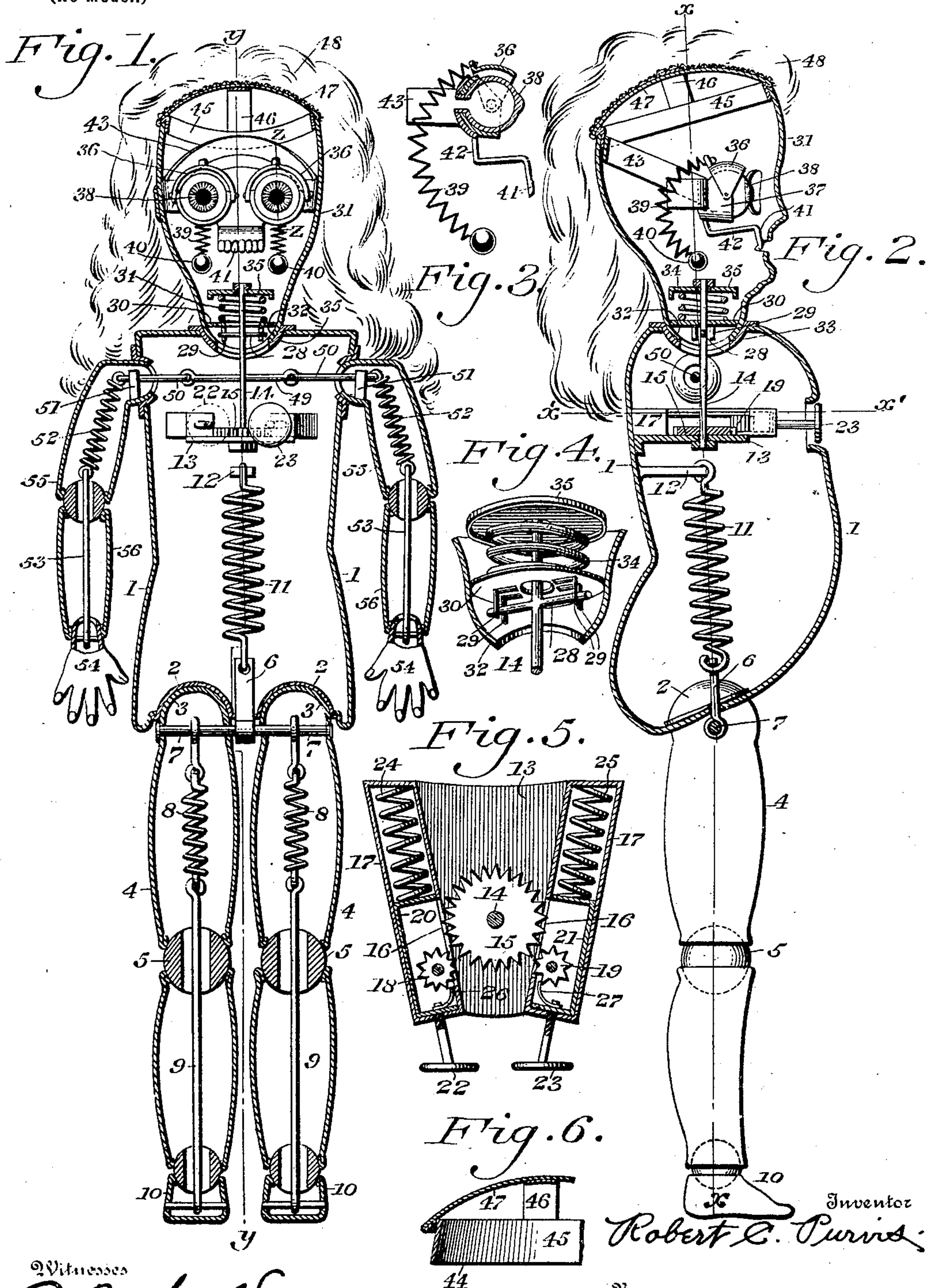
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R. C. PURVIS.

DOLL.

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(No Model.)



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# UNITED STATES PATENT OFFICE.

ROBERT C. PURVIS, OF LAUREL SPRINGS, NEW JERSEY, ASSIGNOR OF ONE-HALF TO BERNHARD WILMSEN, OF PHILADELPHIA, PENNSYLVANIA.

## DOLL.

SPECIFICATION forming part of Letters Patent No. 681,974, dated September 3, 1901.

Application filed March 1, 1901. Serial No. 49,502. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT C. PURVIS, of the town of Laurel Springs, county of Camden, State of New Jersey, have invented a new and useful Improvement in Dolls, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an improved construction of a doll, which is preferably made out of sheet metal, whereby it is rendered more durable and improved in various details.

It also consists of a novel means of holding the eyes in position, which means can be readily inserted in the head and quickly removed therefrom, according to requirements, in case the said eyes become broken or damaged.

It also consists of a novel means of supporting the teeth of the doll, whereby the doll is given an attractive and life-like appearance, said teeth being held in position by the same device which supports the eyes.

It also consists of a novel construction of movable eyelids, which may be provided with eyelashes to simulate the human eye, the opening and closing of said eyelids being effected by means of small counterweights, which are attached to a spring secured to said eyelids, whereby the said eyelids as the doll is moved cause the latter to have the appearance of winking.

It consists of a novel construction and arrangement of metallic springs whereby the arms, legs, and head of the doll are held in connection with the body, so that an articulated doll is produced whose limbs will never become loose or slack with respect to the body, which frequently occurs in the old method of holding said legs and limbs in position with respect to the doll-body by means of a rubber band.

It also consists of an improved manner of assembling the sheet-metal parts, which insures a smooth working surface of the ball-and-socket joints of the doll, the movement of the ball insuring a lasting and noiseless working joint for the arms and legs.

It also consists of a novel means whereby the doll's head is rendered movable to simulate a human head, which is accomplished by means of pinions, which operate a ratchet

mechanism whereby the desired intermittent movements are imparted to the doll's head, which latter can be turned or reversed in any direction by hand without interfering with the mechanical working parts.

It further consists of novel means whereby the doll's head has an independent motion, which is effected by a spherical or concave base situated in the upper portion of the doll's body, within which the lower portion or curved base of the doll's head works, said head being held in assembled position with respect to the body and in contact with said base by a coiled spring or other equivalent means.

It further consists of a novel construction of a cap, to which the doll's wig is attached, said cap consisting of a spring and a band, the latter supporting a suitable curved piece which gives the necessary convex form to the crown of the head, and the outer portion of said band being given a beveled contour whereby the necessary friction to hold it securely to the opening in the doll's head is attained.

It further consists of novel details of construction, all as will be hereinafter set forth, and specifically pointed out in the claims.

Figure 1 represents a vertical sectional view of a doll embodying my invention, the section being taken on the line  $xx$ , Fig. 2. Fig. 2 represents a section on line  $yy$  of Fig. 1. Fig. 3 represents a section on the line  $zz$  of Fig. 1. Fig. 4 represents a sectional view, on an enlarged scale, of the head-actuating devices and their adjuncts, showing a portion of the mechanism whereby the movement of the doll's head is effected. Fig. 5 represents, on an enlarged scale, a section on line  $x'x'$  of Fig. 2. Fig. 6 represents, on an enlarged scale, a detached view showing the construction of the device which carries the doll's wig, the same being in detached position.

Similar characters of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the body of the doll, the same being composed of sheet metal or similar unbreakable material, and the lower portion thereof being provided with the concavities or sockets 2, in which are seated the rounded portions 3 of



the hollow legs 4, the upper and lower portions of the latter having the ball-and-socket joint 5 therebetween, and the legs being secured to the body by means of the clip 6, through the lower portion of which passes the rod 7, which is seated in the legs 4, each of the latter containing springs 8, whose upper ends are connected to the rod 7, while their lower ends engage the links 9, which are suitably fastened within the interior of the feet 10.

11 designates a spring having its lower end secured to the clip 6 and its upper extremity fastened to a suitable point 12, preferably within the body 1.

13 designates a shelf within the body 1, through which latter freely passes the rod 14, which has fastened thereto the ratchet or spur wheel 15, whose teeth extend into the openings 16 of the frames 17 on either side of the ratchet-wheel, so that the teeth of the latter can be engaged at will by the desired pinion 18 or 19, each of the latter being contained in the plungers 20 and 21, respectively, which are operated by the push pins or buttons 22 and 23 against the tension of the springs 24 and 25, respectively.

26 and 27 designate springs or pawls located in proximity to the pinions 18 and 19 and within their respective plungers.

28 designates a cross-piece which is integral with or fastened to the rotatable rod 14, said cross-piece extending laterally and engaging the lugs 29, which project from the disk or plate 30, which is contained within the lower portion of the head 31 and rests on and is secured to the lower rounded portion 32 thereof, which latter has its bearing in the concavity or seat 33, which is located in the upper portion of the doll-body 1, both said seat 33 and the disk 30 having an opening therein through which the rod 14 freely passes.

34 designates a spring located intermediate of the lower plate 30 and an upper plate 35, which latter is held in position by a nut or other suitable fastening device, said spring, owing to its friction on the plate 30, serving to hold the head of the doll in the position to which it may be turned or tilted.

36 designates the eyelids of the doll, which are pivotally mounted on the support 37, which sustains the eyes 38, said eyelids having attached thereto one end of the coil-spring 39, while the lower extremity of said spring has attached thereto the counterweight 40, whereby as the doll is moved the lids will oscillate, and thus owing to the quivering of said spring give the doll the appearance of winking.

41 designates the doll's teeth, which are carried by a bar 42, suitably supported on the frame 43, which also carries the eyes, eyelids, and their adjuncts.

45 designates a band with which is connected the curved pieces 46 and 47, forming together the crown of the head, to which the wig 48 is suitably attached, it being noticed that the top of the head of the doll is open,

and said band 45 has a beveled contour or downward flare, whereby it may be sprung into the upper end of the open head of the doll and be securely retained therein.

49 designates a rod the ends of which are connected with the rods 50, the outer end of each of said rods being secured to a spring 52, which is fastened to a rod 53, the latter having movably secured thereto the hand 54 of the doll, the said rods 50 being supported by the lugs 51 and the spring 52 being concealed within the upper portion 55 of the arm of the doll, while the rod 53 is inside of the forearm portion 56, the said hands 54 moving freely in the ends of the lower portion of the arms, the ball-bearings being interposed between the two portions 55 and 56 of the arms.

The operation of the parts is readily seen. By the construction the movable parts are all made durable and yet work easily and quietly. By having the eyelids connected with the counterweights the same oscillate as the position of the doll is changed and the eyelids have the appearance of winking. By pressing in the plungers 20 and 21 the head of the doll can be made to move in either direction, as desired, and the head can also be rocked or tilted in its socket by hand in whatever position it may be.

By supporting the teeth in the manner described the same impart to the doll a life-like appearance, and by the manner of attaching the head in position the same can be turned in either direction by the ratchet mechanism and can be independently turned by hand and rocked or tilted, as desired. The eyes being stationary and the eyelids movable enable the doll to have the appearance of winking.

The manner of attaching the wig in position enables the frame supporting the same to readily spring into position.

It will be evident that various changes may be made in the construction of the doll which will come within the scope of my invention, and I do not therefore desire to be limited in every instance to the exact construction as herein shown and described.

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

1. In a doll, a head, eyes, a frame on which said eyes are pivotally mounted, and an annular band carrying said frame, said band being adapted to hug the inner side of said head.

2. In a doll, a head, eyes secured therein, eyelids in said head, a counterweight, and a spring connecting the latter with said eyelids whereby the latter oscillate as the head is moved.

3. In a doll, a head, a body, a spring-engaged rod connecting said head and body, gearing actuating said rod for imparting movements to said head with respect to said body, and means for disengaging the members of said gearing and enabling said head



to be rocked or tilted independently of said actuating gearing.

4. In a doll, a head, a body, a rod connecting the same, a spur-wheel on said rod, and  
5 a spring-pressed plunger and a pinion mounted on the latter, adapted to engage said wheel, for turning the latter in either direction whereby the head may be turned with respect to said body.

10 5. In a doll, a head, a body, a rod connecting the same, a ratchet-wheel on said rod and a pinion adapted to mesh with said wheel at the proper time to turn the same, and with it said head, and means for moving said pin-  
15 ion toward and away from said ratchet.

6. In a doll, a head, eyes therein, a frame carrying said eyes, and teeth for the mouth, said teeth being mounted on a bar which is pendent from said frame.

20 7. In a doll, a head having an open top, and a crown formed of curved cross-bands, and a circular lower band, said cross-bands being secured to said lower band and the latter being adapted to be sprung into the open  
25 top of the head and interlocked with the wall thereof.

8. In a doll, a body, a head therefor, a plate in said head, a spring-actuated rod passing through said plate and adapted to engage

therewith, and means for rotating said head 30 and with it said plate, whereby said head may be turned.

9. In a doll, a body, legs and spring-actuated rods connecting said body and legs, a common cross-bar in the upper portions of 35 the legs, the rods being secured to said bar, and a spring in the body connected with the latter and said bar.

10. The combination of a doll's head, a band seated in said head, eyes immovably secured 40 to said band, eyelids movably mounted thereon and teeth for the doll, said band being a common support for said eyes, eyelids and teeth.

11. In a doll, a body, a head seated there- 45 on, a plate on said head, a spring resting on said plate, a second plate on the top of said spring, a rod passing through said plates and spring, and means for rotating said rod, said rod having a cross-piece which engages with 50 said lower plate and is adapted to rock in said plate carrying the upper plate with it in the different positions of the head.

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