G. NOACK.

FLAT TOY FIGURE.

APPLICATION FILED DEC. 28, 1909.

962,578.

Patented June 28, 1910.

Fig. 1.

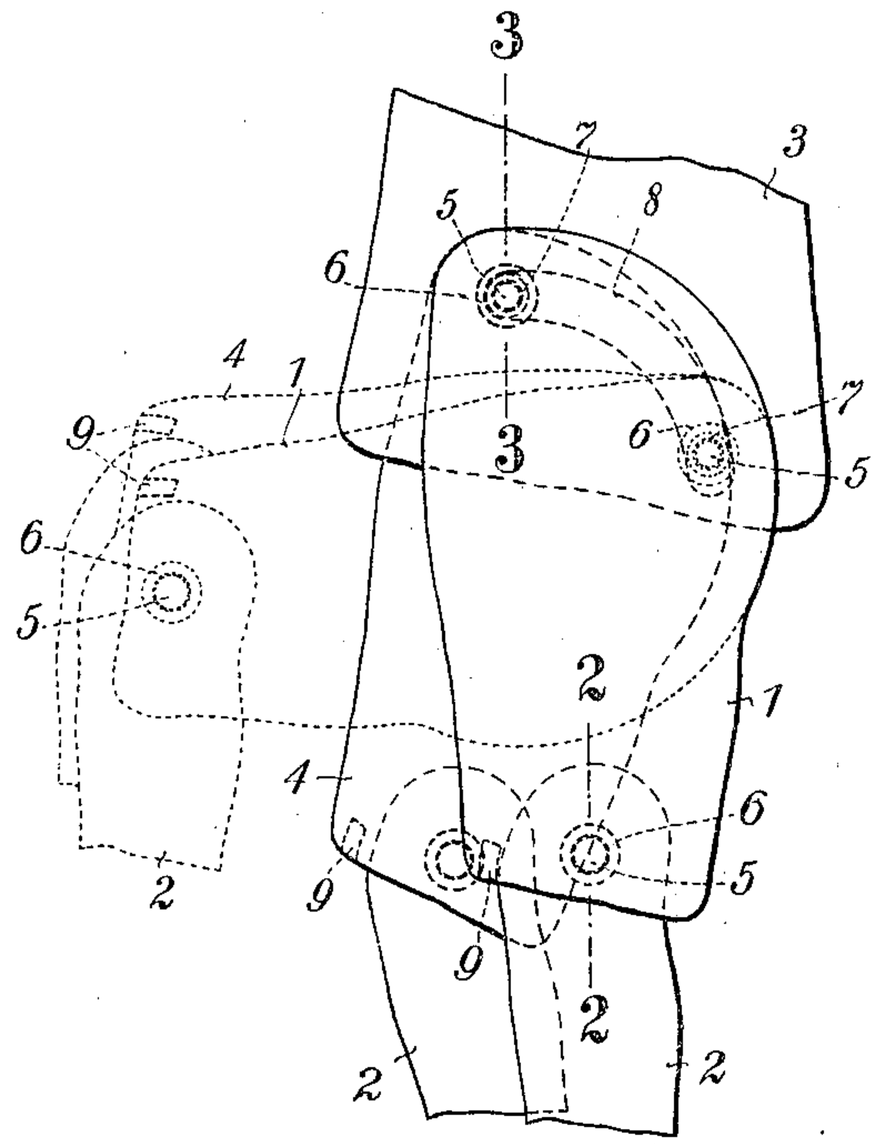



Fig. 2.

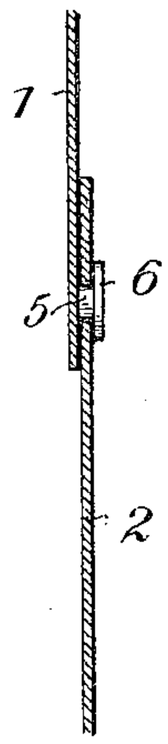
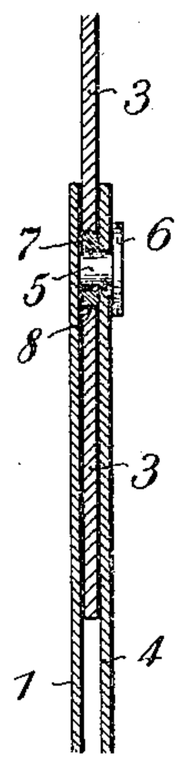



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## FLAT TOY FIGURE.

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Application filed December 28, 1909. Serial No. 535,349.

*To all whom it may concern:*

Be it known that I, GERHARD NOACK, painter, a subject of the German Emperor, and resident of Berlin, 58 Schönhauser Allee, Germany, have invented certain new and useful Improvements in Flat Toy Figures, of which the following is a full, clear, and exact description.

My invention relates to improvements in flat toy figures, and more particularly to such toy figures which represent animals or human beings, and in which the members can be set in different positions relatively to each other.

The object of the improvements is to provide toy figures of this character which have a nearer resemblance to the human being or animal represented thereby. For this purpose the joints connecting the different members to each other and to the body are so constructed that they can not be seen from the side of the person inspecting the same. Furthermore the said joints are so constructed that in all the positions of the members of the figure the latter resembles as far as possible the form of the being represented thereby.

For the purpose of explaining the invention an example embodying the same has been shown in the accompanying drawing in which the same numerals of reference have been used in all the views to indicate corresponding parts.

In said drawing, Figure 1, is a partial side view of a toy figure embodying the invention, the figure showing two different joints one representing the hip joint and the other one the knee of a human being, Fig. 2, is a vertical cross-section on an enlarged scale of one of the said joints, the section being taken on the line 2—2 of Fig. 1, and Fig. 3, is a similar cross-section of the other one of the joints taken on the line 3—3 of Fig. 1.

In the example shown, the thigh 1 is secured to the front side of the hip, when seen from the side of the person inspecting the figure, and at the rear of the thigh the parts to be connected therewith are located, which in the present instance are the shank 2, the hip 3, and the thigh 4 of the other leg of the figure.

The articulation between the thigh 1 and the shank 2 consists of a fairly large pivot 5 which is secured to the rear of the thigh in such a way that it can not be seen from the front side of the figure. To show what may be done, the said pivot is glued to the thigh which, for example in case of figures made of card board, is a suitable construction. The shank 2 is formed with an eye the diameter of which corresponds to that of the pivot 5 and it is slipped on the said pivot so as to fit thereon and to bear without paly against the rear face of the thigh. Therefore when turning the thigh and shank about the pivot 5 they will be held in any position by reason of the friction of the pivot in its eye which is so much the larger as the pivot is made of comparatively large diameter. The shank is held in its place on the pivot and in contact with the thigh by means of a disk-shaped head 6 secured to or integral with the rear end of the pivot. It appears therefore, that the elements for connecting the thigh and the shank to each other are covered by the thigh, so that they can not be seen from the front side of the figure.

The articulation between the hip, the thigh of the leg located at the front side of the figure, and the thigh of the leg located at the rear of the figure is preferably constructed in the manner shown in Fig. 3. As shown, the pivot 5 which is secured to the thigh 1 serves as a support for the thigh 4, and the latter is held in place by means of a disk-shaped head 6, the construction being so far similar to that of the knee joint. The thigh 4 is provided with an eye to receive the pivot 5 and with a forwardly directed hollow pivot or bushing 7 surrounding the pivot 5 and providing a support for the hip 3 located between the thighs 1 and 4. Thereby three members of the figure are articulated to one another, and none of the parts of the connection can be seen from the front side of the figure. The bushing 7 does not extend through the eye of the hip 3, but is located entirely at one side thereof, the inner diameter of the bushing being equal to the diameter of the eye, so that the inner wall of the bushing will be flush with the peripheral wall of the eye, both being engaged by the pivot 5, as shown in Fig. 3. If the thighs of the figure were set relatively to the hip merely by turning the same about the pivot 5, for example to set the same in a sitting position shown in dotted lines in Fig. 1, the figure would assume an unnatural position,

because when turning the thigh the fulcrum of the thigh on the hip must change its position in order that the figure resemble a sitting person.

In order to obtain the natural appearance of the flat figure corresponding to the natural position of a human being the pivot 5 providing the fulcrum for the thighs 1 and 4 and the bushing 7 are guided within a curved slit or elongated eye 8 of the hip 3. The form of the said slit corresponds to the path of the fulcrum of the thighs on the hip which is required to give the members of the figure their natural appearance in the different positions of the thighs. The form of the said slit required in each case can easily be ascertained by setting the members in the corerct position before cutting the slit in the hip portion.

In order to set the figure in its sitting position indicated in dotted lines in Fig. 1, the thighs 1 and 4 are turned forward about their pivot 5, and simultaneously the said pivot 5 and the pivot formed by the bushing 7 are shifted downward within the slit 8.

To limit the relative movements of the members, for example the movement of the shank 2 relatively to the thigh 1, an abutment 9 may be secured to the rear of the member located on the front side of the figure, that is in the example shown to the thigh 1.

While in the foregoing for the purpose of explaining the invention reference has been made to a figure representing a human being, I wish it to be understood, that my invention is not limited to such use, but that it may be embodied in figures representing other beings, and that the joints shown may also be used for connecting other members of the figures.

I claim:

A joint for flat movable figures comprising a body member and a limb member, one of which is provided with an elongated curved slot, while the other, which covers and conceals said slot in the normal position of the parts, is provided with a pivot extending through said slot and movable lengthwise thereof for the purpose of permitting the figure to assume a natural position whatever the relative position of said members may be.

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

GERHARD NOACK.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.