(No Model.)

3 Sheets—Sheet 1.

H. GRAESER.

DOLL HEAD.

No. 440,706. Patented Nov. 18, 1890.

Fig. 1

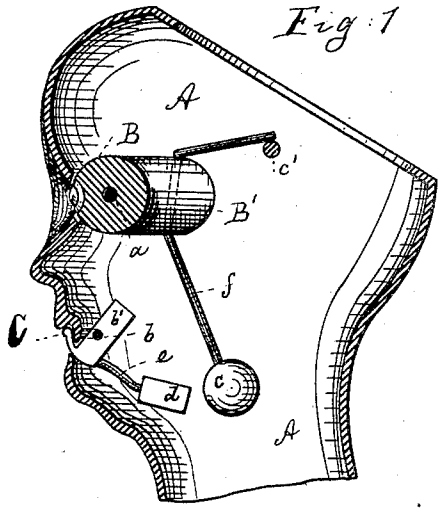


Fig. 3

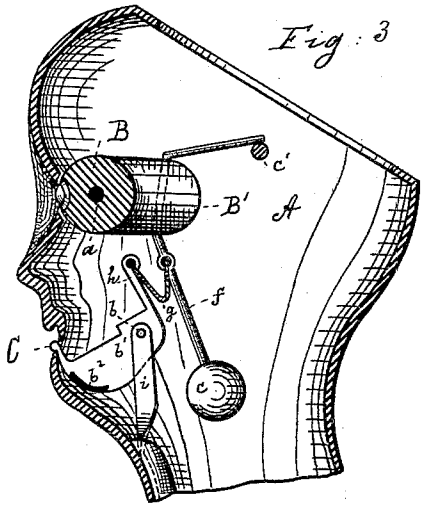


Fig. 2

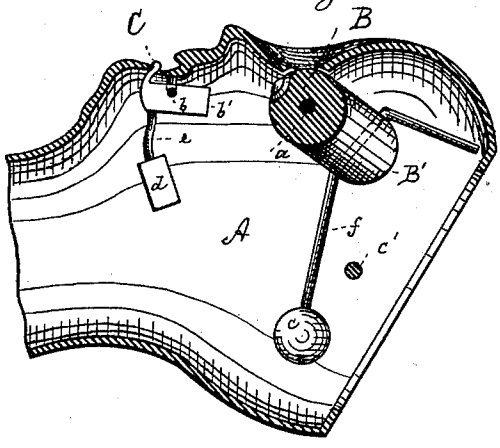
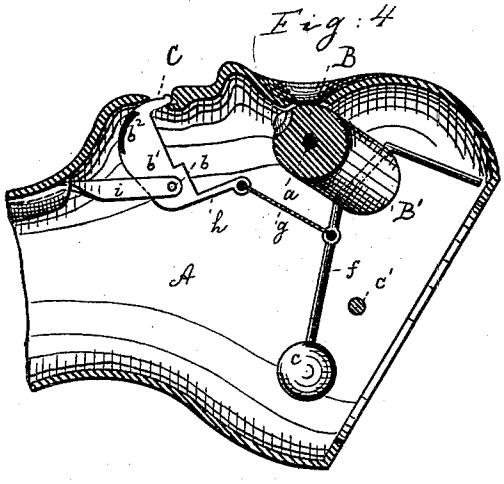


Fig. 4



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Fig. 5

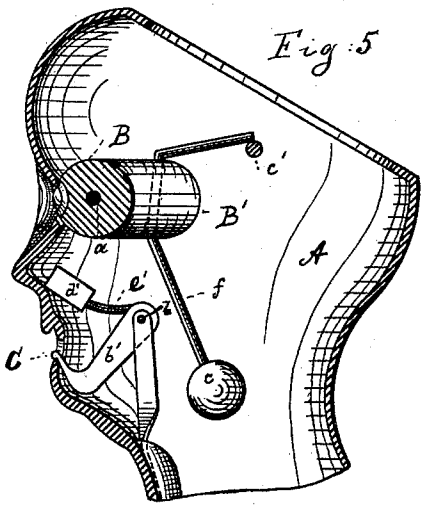


Fig. 7

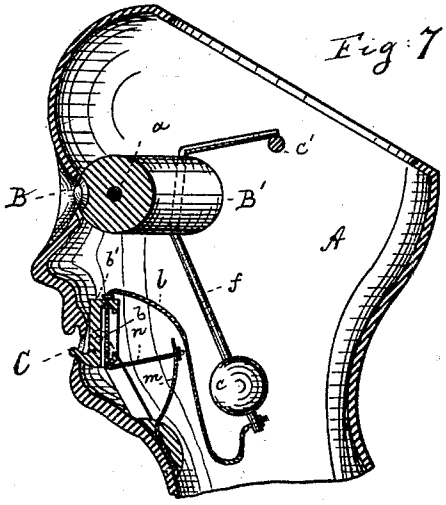


Fig. 6

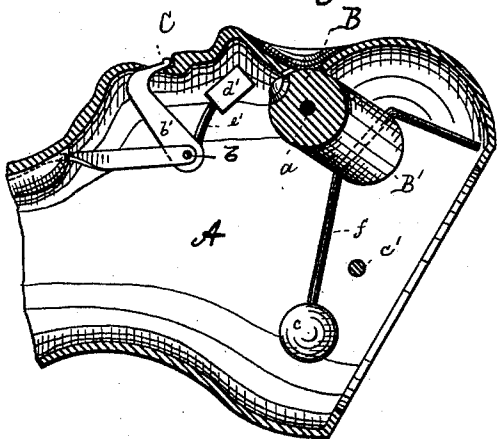
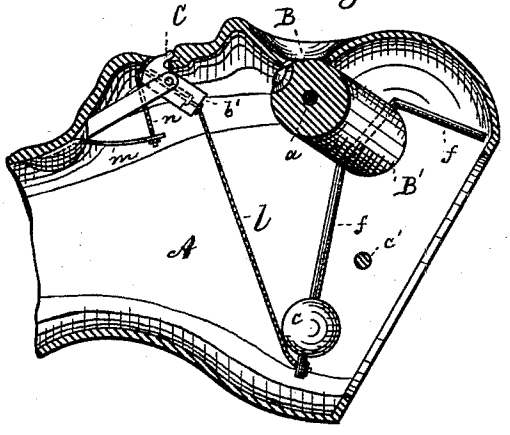


Fig. 8



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H. GRAESER.

DOLL HEAD.

No. 440,706. Patented Nov. 18, 1890.

Fig: 9

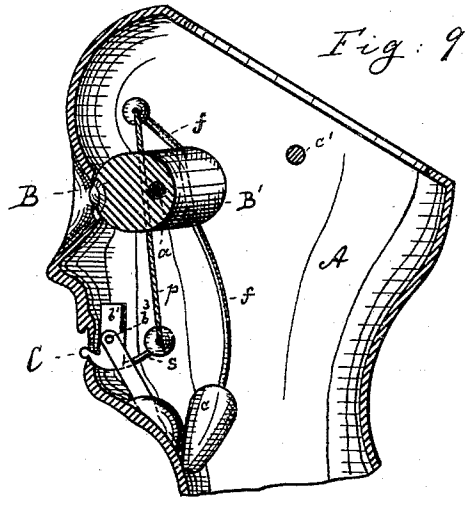
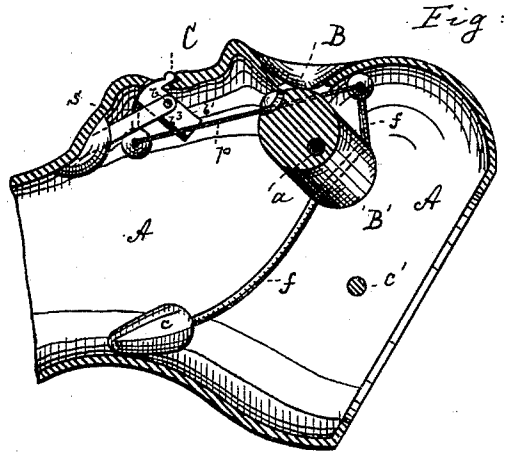


Fig: 10



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UNITED STATES PATENT OFFICE.

HEINRICH GRAESER, OF GOTHA, GERMANY.

DOLL-HEAD.

SPECIFICATION forming part of Letters Patent No. 440,706, dated November 18, 1890.

Application filed August 1, 1890. Serial No. 360,612. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH GRAESER, of Gotha, Germany, have invented an Improvement in Doll-Heads, of which the following is a specification.

This invention relates to an improvement in doll-heads provided with movable eyeballs and a movable lower lip—that is to say, when the doll is turned from an upright into a horizontal position the eyes will close and the lower lip will either close or it will open as in smiling.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical section through a doll's head provided with my improvement, showing it in an upright position. Fig. 2 is a similar section showing it in a horizontal position. Figs. 3 and 4 are corresponding views of a modification. Figs. 5 and 6 are corresponding views of a further modification; Figs. 7 and 8, corresponding views of a further modification, and Figs. 9 and 10 corresponding views of a still further modification.

In Figs. 1 and 2, the letter A represents a doll's head, within which is pivoted at *a* the eyeball B. To a rearward extension B′ of the eyeball is secured a bent lever *f*, carrying a weight *c* at its lower end and abutting at its upper end against a stop *c′*. This stop prevents the eyeball from turning too far upward in the vertical position of the head.

C is the lower lip projecting through a mouth-forming slit. This lip is connected to a block *b′*, pivoted at *b*. To block *b′* there is secured an arm *e*, carrying a weight *d*, that tends to close the lip when the head is upright. The weight *c* is below the eye-opening and the weight *d* is below the mouth when the parts are in the position shown in Fig. 1. When the head is turned to assume a horizontal position, the weights will drop and will cause the eyeball and lip to turn on their pivots *a* and *b*. Thus the eyes will be closed and the mouth will be opened.

In Figs. 3 and 4 all the parts that go to operate the eyeballs are retained. The lip C, however, is connected to a block *b′*, counterweighted near its front b^2 and pivoted to a support *i*. The block *b′* is provided with an upwardly-extending arm *h*, connected by a string *g* to lever *f*. In the upright position of the head the string *g* is slack and the counterweighted block *b′* will draw the lip down; but when the head is turned into the position shown in Fig. 4 the lever *f* will pull string *g* and turn block *b′* on its pivot to draw the lip up and close the mouth.

In Figs. 5 and 6 the arrangement is the same as in Figs. 1 and 2, the only exception being that the block *b′* is provided with an upwardly-projecting lever *e′* and weight *d′* in lieu of the downwardly-projecting parts *e d*. (Shown in Figs. 1 and 2.) This difference in construction has the effect to open the mouth when the head is upright and to close it when the head is in its horizontal position.

In Figs. 7 and 8 the lip-carrying block *b′* is influenced by two elastic strings *l n*. The string *l* connects the upper end of the lip to the lever *f*. The string *n* connects the lower end of the block to a fixed arm *m*. When the head is upright, the string *l* is slack and the string *n* opens the lip. When the head is in its horizontal position, the string *l* is taut and closes the lip against the action of string *n*.

In Figs. 9 and 10 the block *b′* is weighted at b^3 and is provided with an arm *s*, connected to one end of a string *p*, the other end of which is connected to the upper end of lever *f*. When the head is upright, the lever *f* will draw the string *p* up to open the mouth; but when the head is in its horizontal position the string is slackened and the weighted block *b′* will draw the lip up and close the mouth.

What I claim is—

1. The combination of a doll's head with pivoted eyeball and a pivoted lip-carrying block, and with a weighted lever connected to the eyeball and the lip-carrying block, substantially as specified.

2. The combination of a doll's head with pivoted eyeball, a weighted lever secured thereto, a pivoted lip-carrying block, and a string for connecting such block to the lever, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HEINRICH GRAESER.

Witnesses:

E. BISCHOFF,

L. FLORCHÜTZ.