No. 692,107. Patented Jan. 28, 1902.

O. BERNZ.

HANDLE OR PULL FOR FLUSHING TANKS.

(Application filed Jan. 20, 1899.)

(No Model.)

Fig. 3.

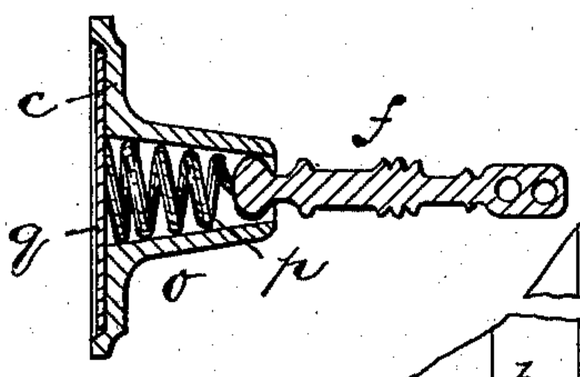
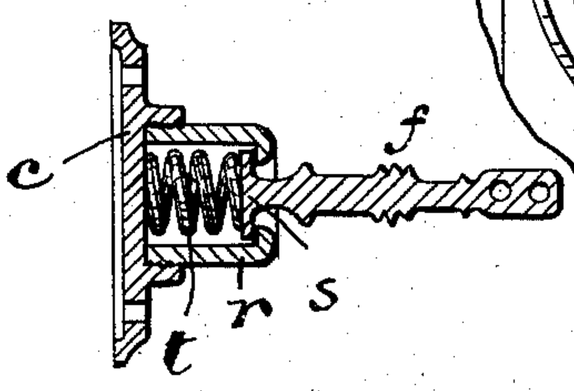


Fig. 4.



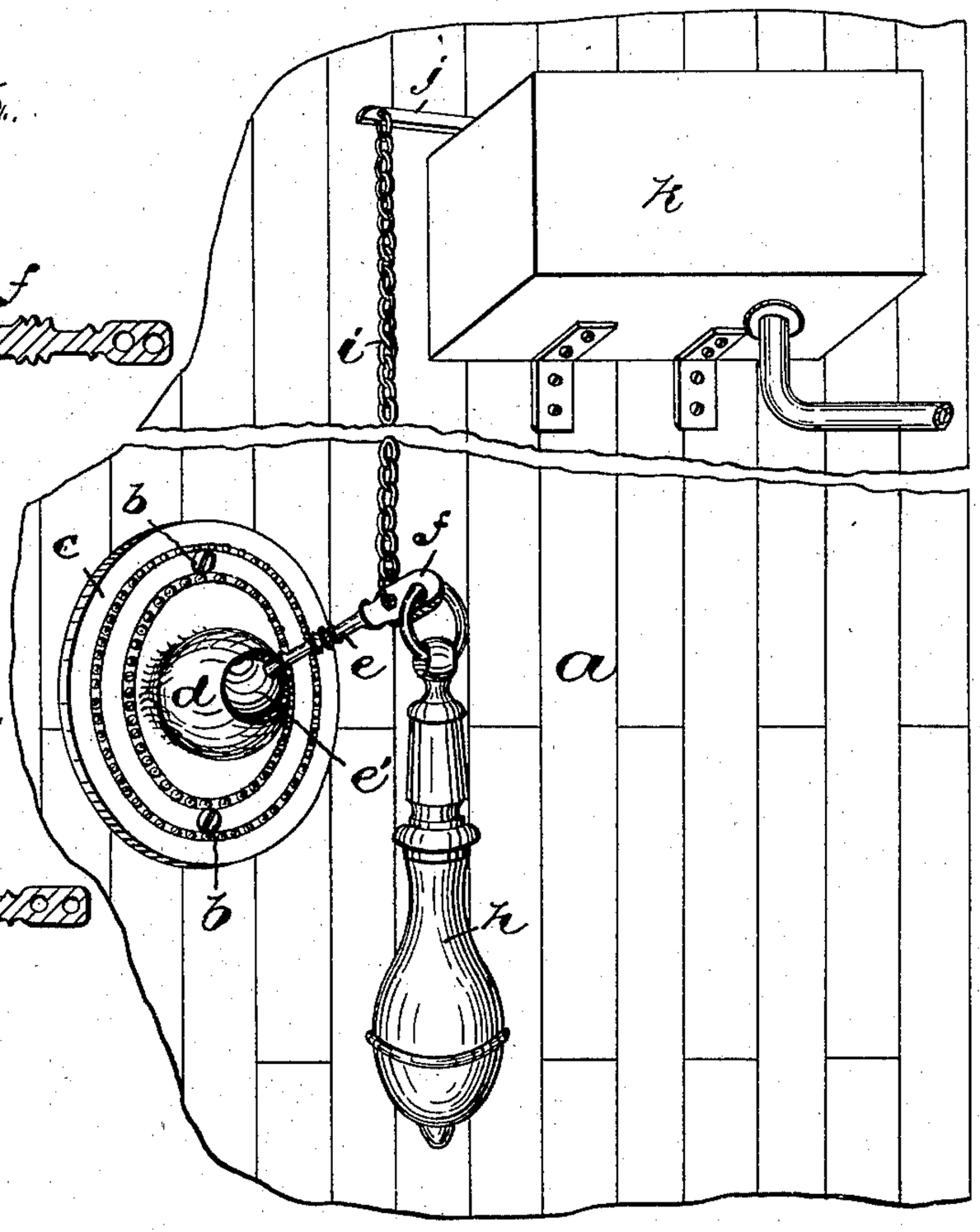


Fig. 1.

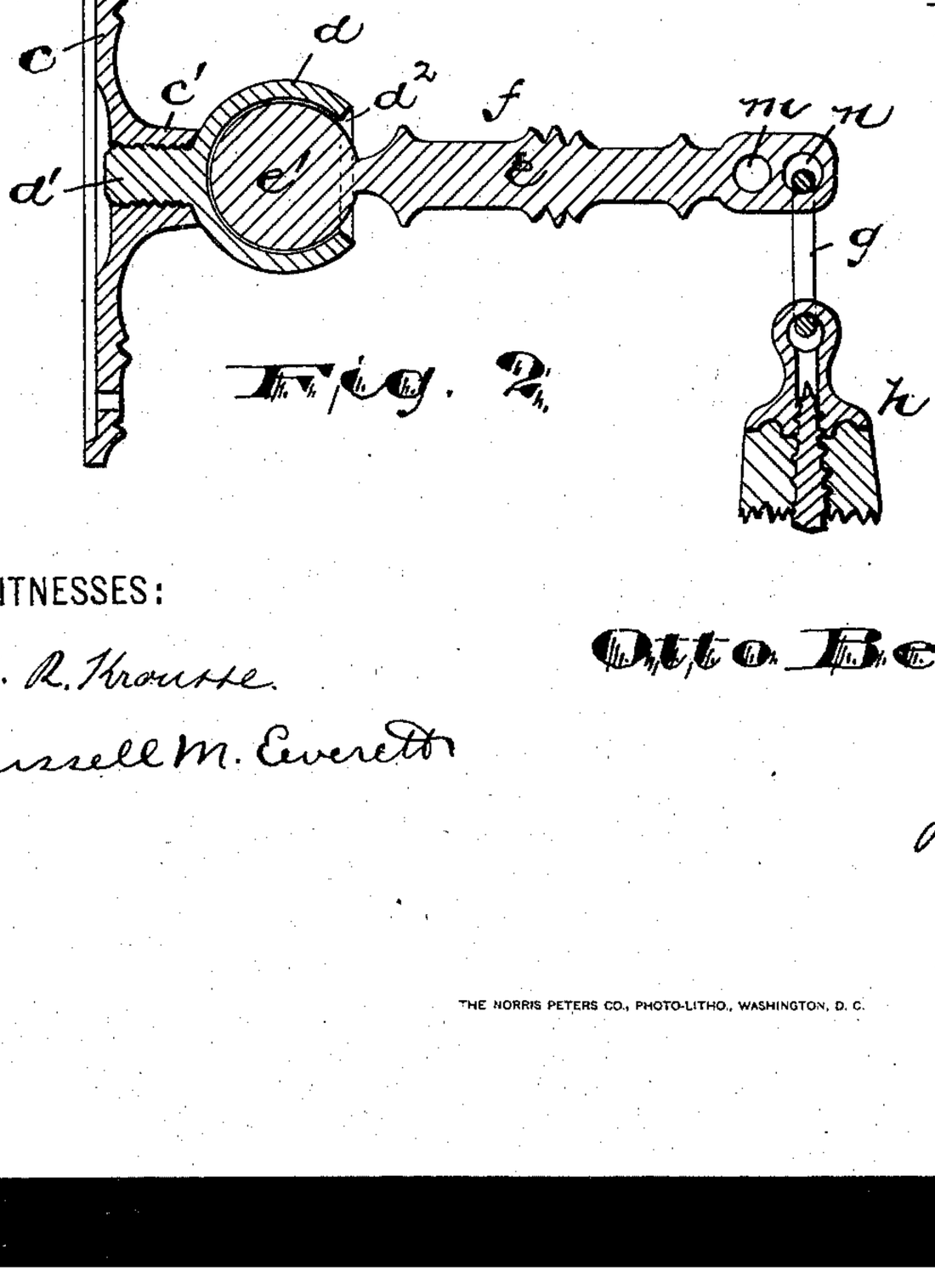


Fig. 2.

WITNESSES:

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HANDLE OR PULL FOR FLUSHING-TANKS.

SPECIFICATION forming part of Letters Patent No. 692,107, dated January 28, 1902.

Application filed January 20, 1899. Serial No. 702,798. (No model.)

To all whom it may concern:

Be it known that I, OTTO BERNZ, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Handles or Pulls for Flushing-Tanks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of handles or pulls represented by my prior patent, No. 344,617, dated June 29, 1886, and such as are commonly used in connection with a chain to operate the outlet-valve of a flushing-tank, the objects of the present invention being to prevent the handle or pull from swinging at the end of its chain out of convenient reach, to provide means of attachment to the wall which shall not inferfere with freedom of the chain in operating the valve, to provide such supporting means which will be operative even when the handle is pulled downward in line deviating from the vertical, to obtain a neat construction presenting a pleasing appearance, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved handle or pull for flushing-tanks and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a perspective view of my improved handle, showing the same in relation to a flushing-tank and wall of a room. Fig. 2 is a central sectional view of the connecting-link, and Figs. 3 and 4 show certain modifications of details in the construction of said connecting-link.

In said drawings, *a* indicates the wall of a room, to which is secured by screws *b* or any other suitable means the base-plate *c* of my improved device. Said base-plate is flat at its rearward side to lie against the wall and is of considerable superficial area, so as to give a firm support. At the forward side of the base-plate in the preferred construction, as shown in Figs. 1 and 2, is a globular head *d*, projecting forwardly upon a short neck *c'*. Said globular head is interiorly hollow or socketed to contain the spherical inner end *e'* of a link *f*, the shank *e* of said link extending out from said socket *d* through an opening d^2 at the front thereof. The said link extends outwardly from the base-plate and at its extremity is provided with perforations *m n*, one of said perforations being adapted to receive a ring *g*, to which the handle proper (marked *h*) is attached, and the other perforation providing means for attaching the lower end of a chain *i*. Said chain is secured at its upper end in any usual manner to the lever *j* in connection with the tank *k* and valve thereof, said tank being suitably supported upon the wall *a* of the room.

The shank *e* of the link *f* is ornamentally shaped as desired, and its inner spherical end *e'* moves in the globular head *d* with a ball-and-socket motion, which is limited by the shank coming in contact with the edges of the opening d^2. Said globular head, which is preferably of a separate piece from the base-plate *c* and joined thereto by a threaded shank *d'* or other suitable means, is cast, spun, or stamped around the spherical inner end *e'* of the link, sufficient space being left between for play, as will be understood by one skilled in the art. The chain *i* is of such length that when the outer end of the lever *j* is in its normally-elevated position with the valve closed the connecting-link *f* is held in an upwardly-inclined position, as shown in Fig. 1. Thus when the handle *h* is pulled the link is allowed sufficient motion by virtue of the ball-and-socket joint described to obtain the necessary movement of the chain.

It will be seen that the handle or pull *h* is held by the link *f* against swinging around and is thus always within convenient reach. Furthermore, neither the pull nor chain is hampered or restricted in its operative movements, and it is not necessary to pull the handle directly downward in a vertical direction to operate the valve.

It will be obvious that instead of the ball-and-socket joint described any form of universal joint may be used to give the outer end of the link *f* the desired freedom of movement, and in Figs. 3 and 4 I have shown other modified constructions which I may sometimes employ and which I will briefly describe.

The base-plate may be formed with a forwardly-projecting tubular part *o*, open at front and rear and having its walls converging forwardly. A conical spiral spring *p* is placed in said hollow part *o*, fitting against the inner walls thereof, and to the forward end of said spring is attached the end of the link *f*. The rear end of the conical spring presses against a plate *q*, laid in the recess of the base-plate before said base-plate is screwed to the wall, or, again, a cylindrical spring-chamber *r* may be screwed into a threaded socket at the front of the base-plate. The forward edges of said cylindrical chamber are bent inwardly to form a stop for the disk-like head *s* of the link *f*, which head lies in the front part of the spring-chamber, a spiral spring *t* pressing said head normally forward against its seat. It will be evident that said spring-chamber may be formed integral with the base-plate, the latter being centrally perforated, and a rear plate be used, as shown and described in connection with the conical spring.

Other modifications may also be made without departing from the spirit and scope of the invention, and I do not wish to be limited by the positive descriptive terms employed excepting as the state of the art may require.

Having thus described the invention, what I claim as new is—

1. A water-closet pull comprising a base-plate having means for fastening upon a wall, and forming at its front a joint member, a link or connector forming a second member and being hinged at one extremity to the base-plate member by a universal joint, said link normally extending out from the base-plate and being free to swing in any direction, and a valve-chain and handle at the other end of said link, substantially as set forth.

2. A water-closet pull comprising a base-plate adapted to be fastened flatwise upon a wall and providing at its outer face a socket or seat, a rigid link having at one extremity a head adapted to lie in said socket or seat and forming a universal joint therewith, said link extending normally outward from the base-plate and being free to swing in any direction, and a valve-chain and a handle attached to the link near its outer end from the base-plate, substantially as set forth.

3. A water-closet pull having a base-plate *c*, adapted to be applied to a wall and presenting at its outer face a socket or seat, a rigid link *e*, having at one extremity a ball or head *e'*, adapted to form with the said socket on the base-plate a ball-and-socket joint, the link normally extending out from the base-plate and being free to swing in any direction, a handle at the outer end of the link, and a valve-chain attached to the link, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of December, 1898.

OTTO BERNZ.

Witnesses:
CHARLES H. PELL,
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