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APPARATUS FOR FEEDING BOTTLES IN BOTTLE CORKING MACHINES.

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Fig 2

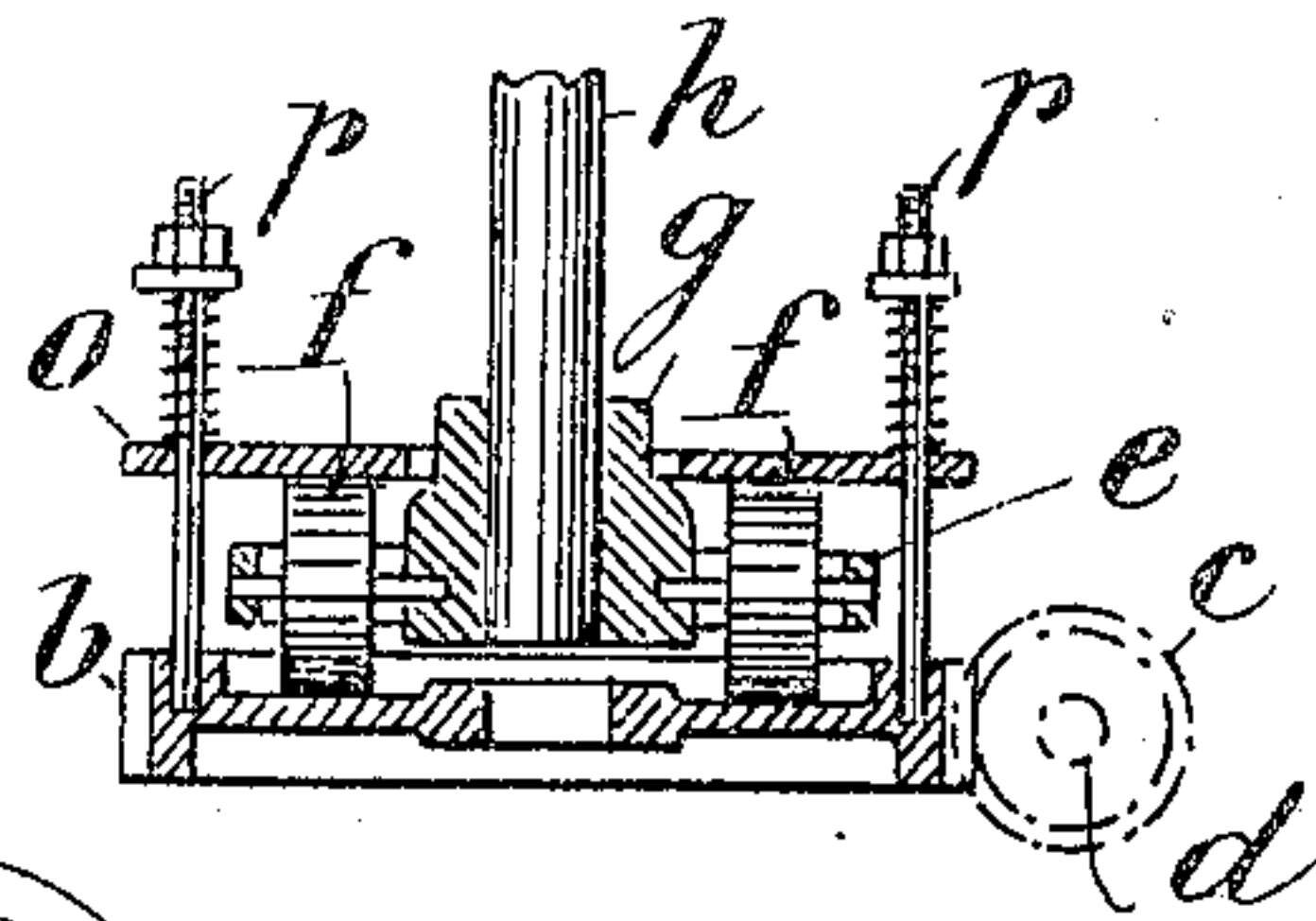
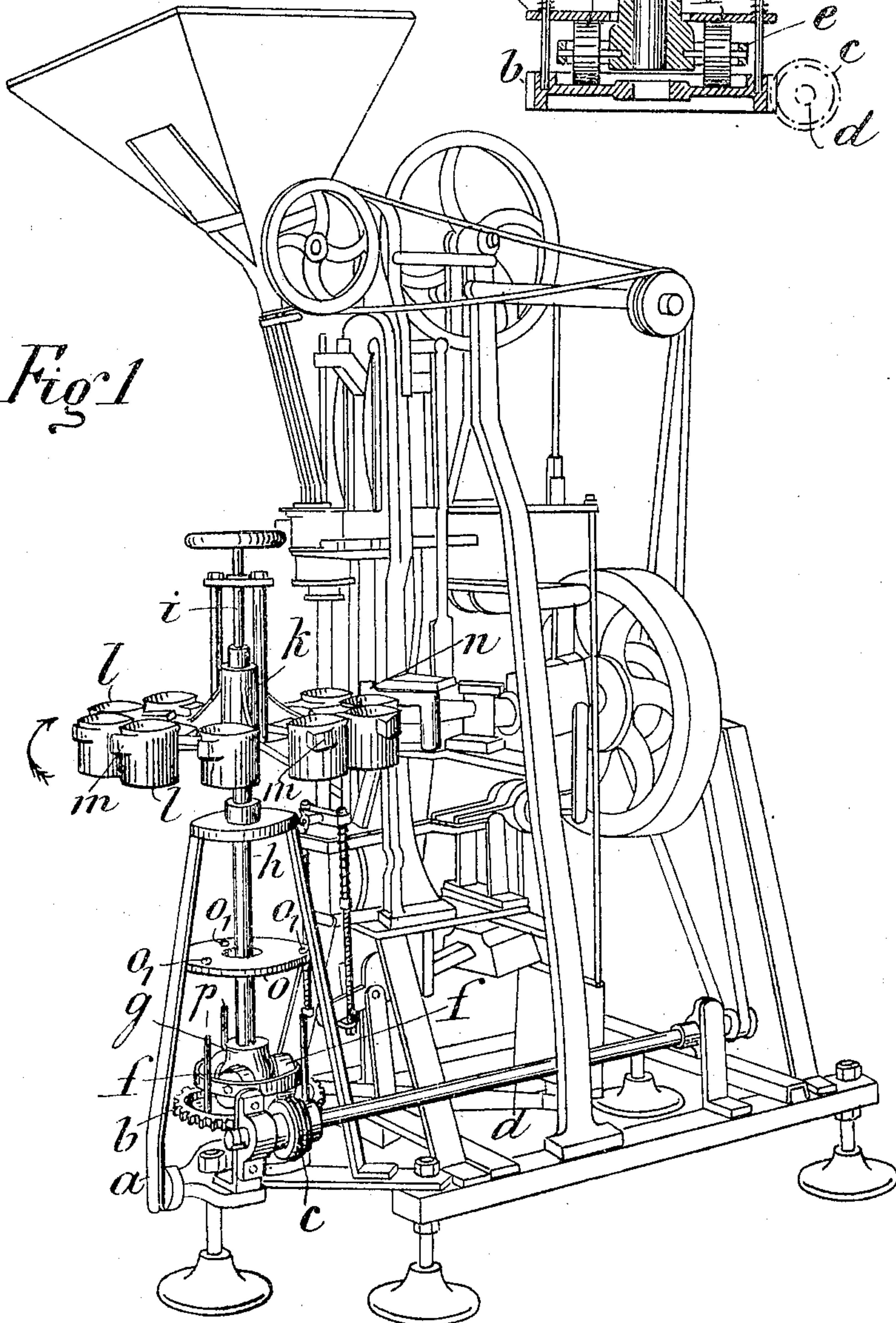


Fig 1



Witnesses

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APPARATUS FOR FEEDING BOTTLES IN BOTTLE-CORKING MACHINES.

No. 797,913.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDERS ANDERSEN PINDSTOFTE, manufacturer, of 62 Frederiksberg Alle, Copenhagen, Denmark, have invented certain new and useful Improvements Relating to Apparatus for Feeding Bottles in Bottle-Corking Machines, of which the following is a specification.

This invention has for its object an apparatus for feeding the bottles in bottle-corking machines, the arrangement of which is such that the bottles may be introduced directly into the apparatus and guided under the corking device where the bottle is raised and pressed against the conduit through which the corks are supplied until the cork is driven in. Thereupon the bottle is depressed and carried away in order to make room for the next, and so on in succession. The table with the bottle-holders is arranged upon a sleeve which is adapted to be adjusted—that is to say, raised and lowered—upon the shaft by means of a screw-spindle, so that the bottle-holders may be adjusted for half-bottles or whole bottles or for the reception of bottles of various sizes.

A constructional form of the apparatus is illustrated in combination with a corking-machine in the accompanying drawings.

Figure 1 is a side elevation of the apparatus, in which for the sake of clearness the plate *o*, hereinafter described, is shown raised. Fig. 2 is a detail view.

Upon a stand *a*, connected with the under-frame of the corking-machine, a worm-wheel *b* is mounted. This wheel is driven by means of a worm *c*, the shaft of which is operated by a belt, chain, or the like from the corking-machine. Over the worm-wheel *b* is arranged a circular plate *e*, which is provided with three wheels or rollers *f*, the shafts of which are mounted in the outer edge of the plate *e* and in the hub *g*, which is rigidly connected with the shaft *h*. This shaft *h* is keyed in the hub *g* and is carried by it or by the three rollers in the plate *e* of the hub. At its upper part it is provided with a sleeve *k*, adjustable by means of a screw-spindle *i* and carrying the table with the bottle-holders *l*.

On the outer side of each bottle-holder *l* is located a tooth *m*, which engages the finger *n* on the corking-machine as each bottle in its holder *l* is brought immediately under the corking-head of the machine. By

means of tooth *m* and finger *n* the series of bottle-holders *l* is brought to rest.

The friction between the wheels *f* and the worm-wheel *b* is not sufficiently great for rotating the shaft *h* under all circumstances and particularly to start it sufficiently quickly after it has been rendered stationary by the resistance of the finger *n*. In order, therefore, to increase the friction while still retaining the rolling friction, as sliding friction would cause too great wear of the apparatus, three vertical bolts *p* are fixed upon the worm-wheel. They are passed through corresponding holes *o'* in a plate *o*. Upon the bolts above the plate *o* and between this latter and the wing-nuts screwed upon the bolts spiral springs are arranged. By this means the plate *o* is yieldingly applied against the wheels *f*, whereby their friction against the disk of the worm-wheel *b* is increased. As the weight of the table and bottle-holders *l* also rests upon the wheels—that is to say, upon the worm-wheel—the friction is on the plate *e*, and it therefore remains a rolling friction.

The apparatus acts in the following manner: The worm *c* drives the worm-wheel *b* continuously, and, owing to the friction between the latter and the wheels *f*, the hub *g*, with the plate *e* and the shaft *h* connected therewith, with its sleeve *k* and the bottle-holders *l*, are rotated in the direction indicated by the arrow in Fig. 1 until a tooth *m* encounters the finger *n*. Hereupon the series of bottle-holders are brought to rest as the friction between the worm-wheel *b* and the wheels *f* is overcome, and the wheels *f* will continue to rotate under the stationary plate *e* as they are caused to turn by the continuously-rotating worm-wheel *b*. The corking then begins, and as soon as this operation is finished the finger *n*, which is held by means of a spring against the teeth *m*, is removed by suitable means provided upon the corking-machine. The friction between the worm-wheel *b* and the wheels *f* at once causes the table with the bottle-holders *l* to be displaced until another tooth *m* encounters the finger, and so on in succession. While it has hitherto been necessary to stop the corking-machine itself after each corking, by means of this device it is now possible to permit the machine to run uninterruptedly, the sole necessity for waiting being restricted to what is required for filling and emptying the bot-

tle-holders, which may be readily effected if these remain stationary during the corking.

The advantages of this apparatus are obvious, the chief of them being that by this means one workman instead of two is able to attend to the corking - machine, while the breakage of bottles, which has hitherto been very frequent, is prevented, owing to the fact that the bottles are inclosed during the whole of their travel and during the corking by the bottle-holders, and it is impossible for them to fall therefrom.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An apparatus for feeding bottles in a corking - machine, comprising a rotatable shaft, a series of bottle - holders mounted thereon, frictional driving means for operating said shaft, means for increasing and lessening the friction of said driving means, teeth on the bottle-holders and fingers adapted to engage the teeth on said bottle-holders to stop said holders in corking position.

2. In an apparatus for feeding bottles in corking-machines, the combination with a rotatable shaft, a series of bottle - holders mounted on said shaft, teeth on said bottle-holders, a finger on the corking - machine adapted to engage said teeth to stop each of said holders in corking position, a series of friction-wheels mounted on said shaft, a positively-driven disk in frictional engagement with said wheels and means for increasing or lessening the friction between said disk and said friction-wheels.

3. In an apparatus for feeding bottles in corking - machines, the combination with a rotatable shaft, a series of bottle - holders mounted on said shaft, means for stopping each of said holders in corking position, a series of friction-wheels mounted on said shaft, a positively-driven friction-disk engaging said wheels and means for increasing or lessening the friction between said disk and said wheels.

4. In an apparatus for feeding bottles in corking - machines, the combination with a rotatable shaft, a series of bottle - holders

mounted in said shaft, means for stopping each of said holders in corking position, a series of friction-wheels mounted on said shaft, a worm-gear in frictional engagement with said wheels, a worm for driving said worm and means for regulating the friction between said worm-gear and said friction-wheel.

5. A bottle-feeding apparatus for corking-machines comprising a rotatable shaft, a series of bottle-holders mounted on said shaft, means for intermittently engaging said bottle-holders to determine the corking position of a holder, a friction device for driving said shaft and means for regulating the friction of said device.

6. In an apparatus for feeding bottles in corking - machines, the combination with a rotatable shaft, a series of bottle - holders mounted on said shaft, lugs or projections on said bottle-holders, a dog on said corking-machine adapted to engage said lugs and stop each of said holders in corking position, a series of friction-wheels mounted on said shaft, a positively - driven disk in frictional engagement with said wheels, a worm-gear in frictional engagement with said wheels and means for regulating the friction between said wheels and said friction-disk and worm-gear.

7. In an apparatus for feeding bottles in corking - machines, the combination with a rotatable shaft, a series of bottle - holders mounted thereon, and a screw - spindle for raising and lowering said holders, lugs or projections on said holders, a dog mounted on the corking-machine and adapted to engage said lugs, a series of friction-wheels mounted on said shaft, a positively-driven disk in frictional engagement with said wheels, a worm-gear in frictional engagement with said wheels, means for regulating the friction between said worm-gear and disk and said wheels and a worm for driving said worm-gear.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANDERS ANDERSEN PINDSTOFTE.

Witnesses:

VIGGO C. EBERTH,
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