US 20060277709A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2006/0277709 A1**

Young (43) **Pub. Date: Dec. 14, 2006**

(54) **MOP WRINGER**

(76) Inventor: **Ronald Alexander Young**, West Midlands (GB)

Correspondence Address:
YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202 (US)

(21) Appl. No.: **11/332,257**

(22) Filed: **Jan. 17, 2006**

(30) **Foreign Application Priority Data**

Jun. 9, 2005 (GB) 0511709.8

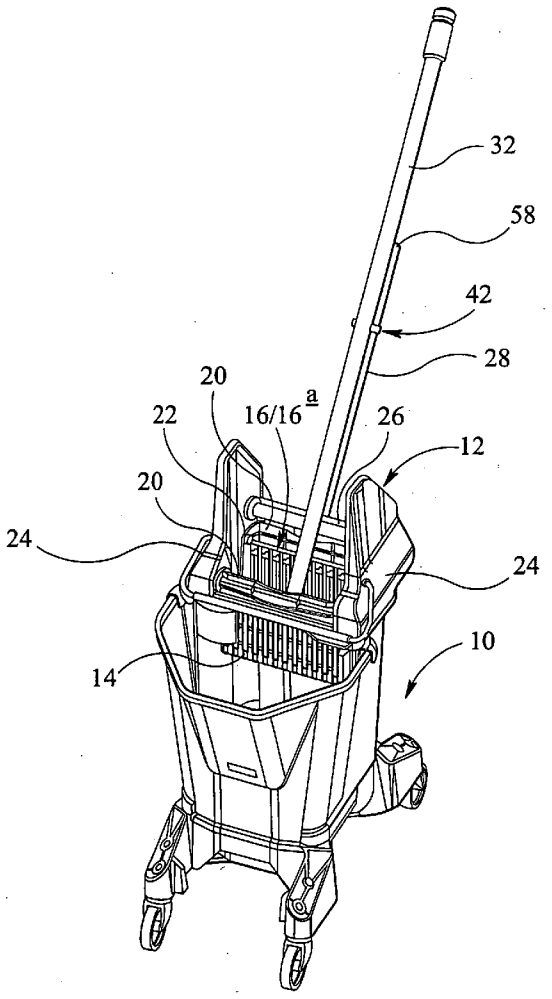
Publication Classification

(51) **Int. Cl.**
A47L 13/59 (2006.01)

(52) **U.S. Cl.** **15/261**

(57) **ABSTRACT**

A mop wringer comprises a basket having an opening for accepting a mophead having mop material to be wrung, and a lever-operated mechanically assisted pressing mechanism including a press member for pressing the mop material of the mophead into or against the basket, and an elongate lever for operating the press member. The lever is positioned in a plane which bisects or substantially bisects the opening of the basket. There is also provide a mop holding element specifically adapted for a centralised lever of a mop wringer as described above. The holding element comprises means for securing the holding element to the lever of the wringer, and a gripping portion for releasably gripping a mop handle attached to the mophead.



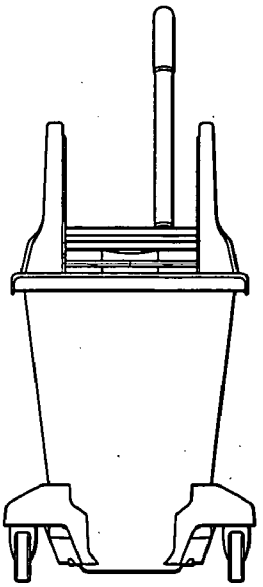


FIG 1
Prior art

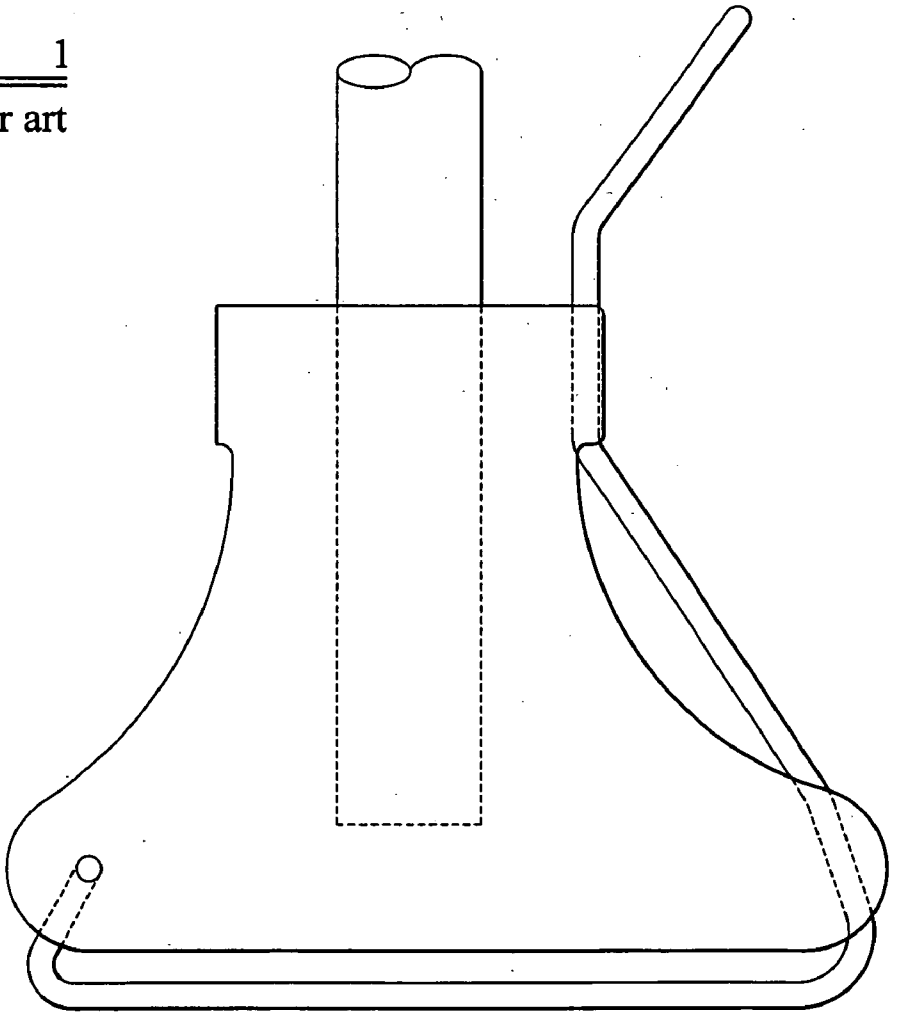


FIG 2
Prior art

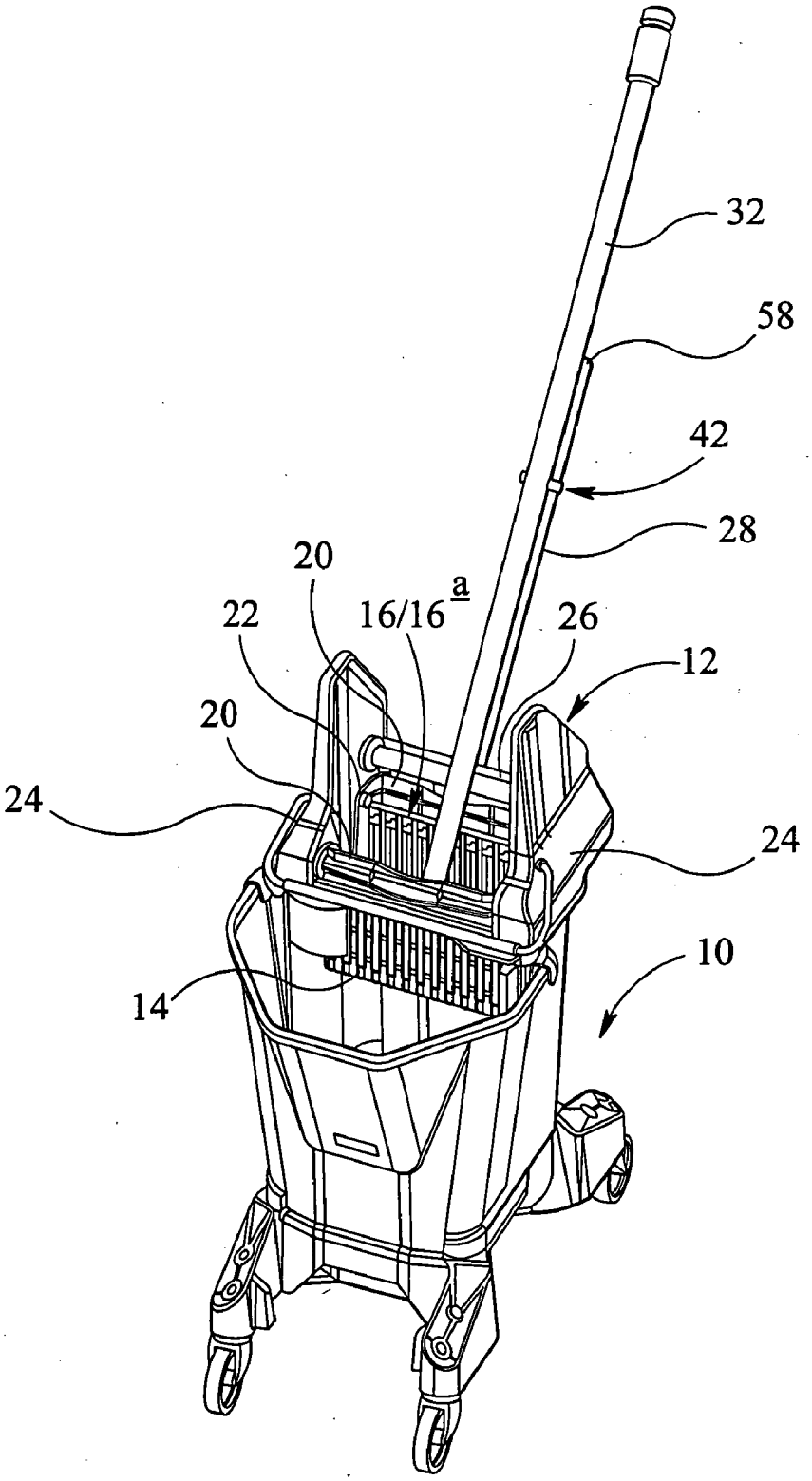


FIG 3

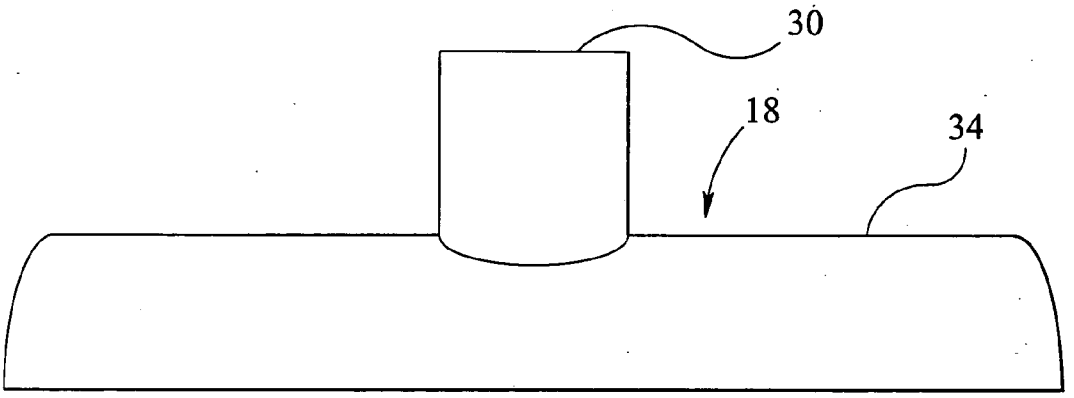


FIG 4
Prior art

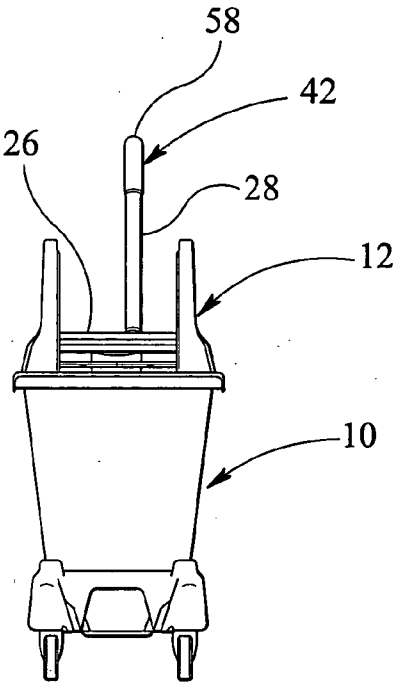


FIG 5

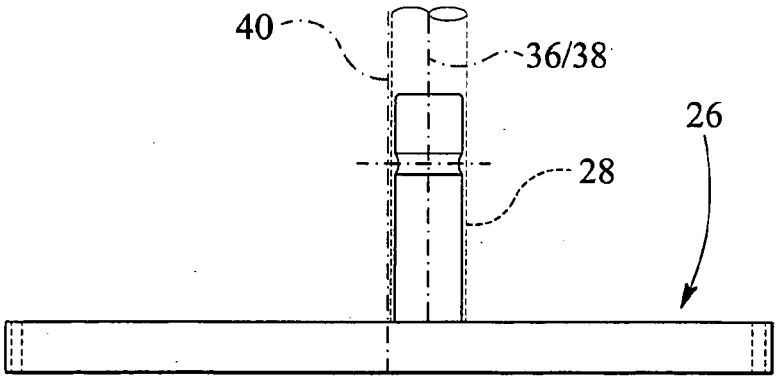


FIG 6

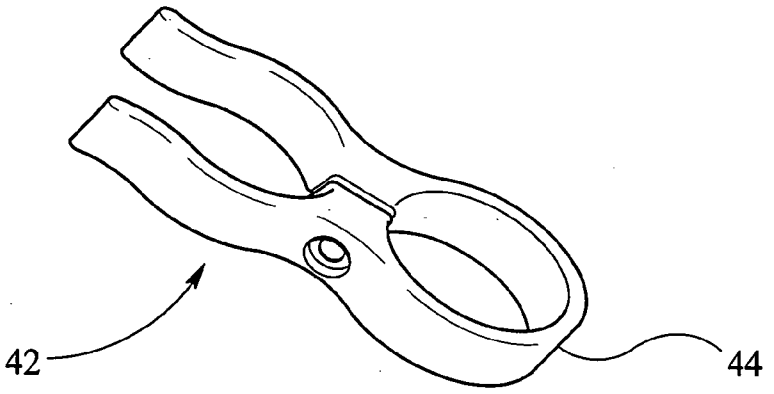


FIG 7

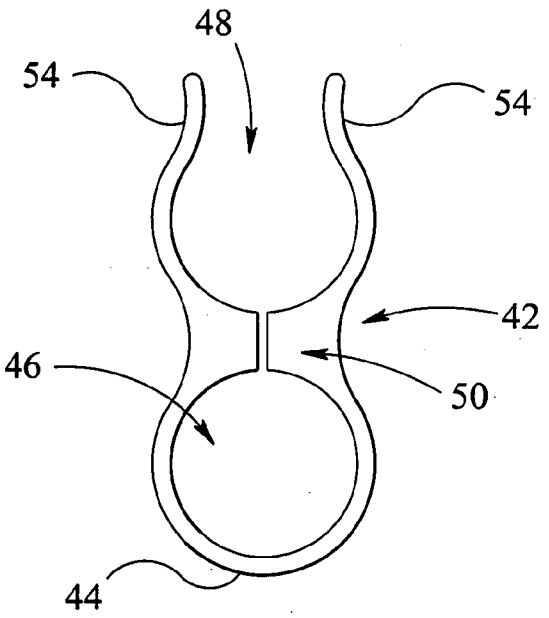


FIG 8

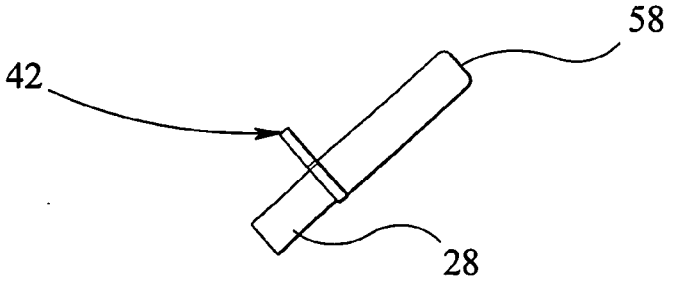


FIG 9

MOP WRINGER

BACKGROUND OF THE INVENTION

[0001] This invention relates to a mop wringer, a mop handle holding element for such a wringer, and to a bucket in combination with such a wringer.

[0002] Lever-operated mechanically assisted pressing wringers are well known. They typically comprise a basket, one or two pressing plates which are slidable into and out of the basket, a pivotable lever operable by a user, and an enclosed gear mechanism connecting the lever with the or each pressing plate. As the lever is pushed or pulled forward, the or each pressing plate moves into the basket, forcing a mophead with mop material into the basket and causing the mop material to be wrung out. Such an arrangement supported by a wheeled bucket is shown by way of example in **FIG. 1** and in GB2243537A.

[0003] In this prior art, the lever is connected to a horizontal rotatable drive bar. In order to accommodate traditional shapes of mophead, such as shown in **FIG. 2**, the distal end of the lever is connected to the drive bar adjacent one interior side of the wringer, well offset from the centre of the drive bar.

[0004] Other arrangements of wringer, also utilising a lever operated pressing mechanism, dispense with the drive bar by positioning the lever on the exterior surface of the wringer.

[0005] Both of these offset arrangements are unsatisfactory. Due to the offset lever, a twisting moment is applied to the wringer, supporting bucket, wheelbases and castors when the lever is operated. This results in premature wear and breakage of the wringer and/or bucket, and thus a much reduced life expectancy.

[0006] Additionally, due to the twisting moment imparted, stability of the wringer and bucket is decreased, resulting in a greater number of spillages.

[0007] Furthermore, the traditional lever is typically offset to the right, causing left handed users problems.

[0008] Finally, due to the traditionally offset lever, when a mophead is positioned in the wringer, a mop handle cannot easily be supported when it is desirous to leave the mop unattended.

[0009] The present invention seeks to provide a solution to these problems.

SUMMARY OF THE INVENTION

[0010] According to a first aspect of the present invention, there is provided a mop wringer comprising a basket having an opening for accepting a mophead having mop material to be wrung, and a lever-operated mechanically assisted pressing mechanism including at least one press member for pressing the mop material of the mophead into or against the basket, an elongate lever for operating the press member, and a gear mechanism for transmitting movement of the lever to the or each press member, wherein the lever is positioned in a plane which bisects or substantially bisects the opening of the basket, so that forces imparted to the wringer via the lever are evenly or substantially evenly distributed.

[0011] According to a second aspect of the present invention, there is provided a holding element for a lever of a mop wringer in accordance with the first aspect of the invention, the holding element comprising means for securing the holding element to the lever of the wringer, and a gripping portion for releasably gripping a mop handle attached to the mophead.

[0012] According to a third aspect of the present invention, there is provided a bucket in combination with a mop wringer comprising a basket having an opening for accepting a mophead having mop material to be wrung, and a lever-operated mechanically assisted pressing mechanism including at least one press member for pressing the mop material of the mophead into or against the basket, an elongate lever for operating the press member, and a gear mechanism for transmitting movement of the lever to the or each press member, wherein the lever is positioned in a plane which bisects or substantially bisects the opening of the basket, so that forces imparted to the wringer via the lever are evenly or substantially evenly distributed, the mop wringer being detachably attachable to the bucket.

[0013] The invention will now be more particularly described, by way of example, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] **FIG. 1** shows a prior art lever-operated mechanically assisted pressing wringer with offset lever;

[0015] **FIG. 2** shows a prior art mophead;

[0016] **FIG. 3** is a perspective view of one embodiment of a long-handled mop wringer, in accordance with the first aspect of the invention, seated on a wheeled bucket and including a mop holding element in accordance with the second aspect of the invention;

[0017] **FIG. 4** is an elevational view of a known mophead typically used with the mop wringer shown in **FIG. 3**;

[0018] **FIG. 5** is a front view of the mop wringer and bucket, and holding element shown in **FIG. 3**;

[0019] **FIG. 6** is an elevational view of a drive bar of the mop wringer shown in **FIG. 3**;

[0020] **FIG. 7** is a perspective view of the holding element;

[0021] **FIG. 8** is a plan view of the holding element; and

[0022] **FIG. 9** is an enlarged side view of a proximal end of a lever of the mop wringer shown in **FIG. 4**, and showing a user hand grip and the holding element.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Referring to FIGS. **3** to **9** of the drawings, there is shown a wheeled bucket **10** having castors, and a lever-operated mechanically assisted mop wringer **12** detachably seated on an upper rim of the bucket **10**. The combination of bucket **10** and such a mop wringer **12** are generally known from GB2243537A, for example, and thus will not be further described in great detail.

[0024] However, for the sake of clarity, the mechanically assisted mop wringer **12** comprises a perforated or generally

latticework-type basket **14** which defines a channel **16** having a main opening **16***a* for receiving a mophead **18**, two opposing press members or plates **20** which can travel along guide slots **22** into and out of the basket **14** in order to urge mop material held by the mophead **18** into or against the basket **14**, an enclosed gear mechanism provided in one or both sides **24** of the mop wringer **12** for moving the press plates **20** along the guide slots **22**, a rotatable drive bar **26** which, when rotated, drives the or each gear mechanism, and a long-handled lever **28** which is attached to the drive bar **26** for rotating the drive bar **26**.

[**0025**] Mopheads **18** having a far slimmer and compact profile are now used as standard. By way of example, such a mophead **18** is shown in **FIG. 4** and another type of mophead is shown in GB2262255A. These Mopheads **18** have a screw threaded boss **30** for attaching a mop handle **32**, and an elongate or circular clamping body **34** for attaching, typically stranded, mop material (not shown).

[**0026**] Consequently, the long-handled lever **28** of the mop wringer **12** of the present invention is positioned centrally or substantially centrally on the drive bar **26**, as best shown in **FIGS. 5 and 6**. This results in the lever **28** operating or moving in a plane **36** which bisects or substantially bisects the main opening **16***a* of the basket **14** of the wringer **12**.

[**0027**] Preferably, the plane **36** of operation of the lever **28** in which the longitudinal axis **38** of the lever **28** lies is spaced or offset slightly from a line **40** bisecting the opening **16***a* of the basket **14** and the drive bar **26** by 10 mm to 15 mm. However, the range could feasibly be 0 mm (in other words the lever **28** is positioned centrally on the drive bar **26**) and less than or equal to 20 mm.

[**0028**] Due to the reduced profiles of modern compact mopheads **18**, interference with a centrally or substantially centrally positioned wringer operating lever **28** is eliminated or, at least, greatly reduced.

[**0029**] As seen in **FIGS. 3 and 7** to **9**, a holding element **42** is provided on the lever **28** for releasably holding the mop handle **32** attached to the mophead **18**. The holding element **42** is specifically adapted for the centralised lever **28** and has a generally waisted pincer shape having a living or integral hinge **44**. The shape of the holding element **42** defines two gripping portions **46**, **48**. One gripping portion **46** from the hinge **44** to waist **50** acts as a clamp for clamping the holding element **42** to the lever **28**. A screw-threaded fastening device **52**, such as a bolt and nut or self-tapping screw, is located at the waist **50** to fasten opposing sides of the holding element **42** together and thus secure the holding element **42** in place to the lever **28**.

[**0030**] The other gripping portion **48** defines two flexible opposing jaws **54** between which the mop handle **32** can be push-fit inserted and gripped. The mop handle **32** is released from the jaws **54** of the holding element **42** simply by being pulled away from the holding element **42**.

[**0031**] The holding element **42** can be located at any point along the longitudinal extent of the lever **28**.

[**0032**] Any suitable means for securing the holding element **42** to the lever **28** can be utilised. For example, the gripping portion **46** can be a push-fit plug which locates in the proximal end **58** of the lever **28**. In this case, the jaws **54** of the holding element **42** will extend transversely to the push-fit plug. However, this arrangement may interfere with a user gripping the lever **28**.

[**0033**] The securing means can also be a screw-threaded fastener which directly fastens the holding element **42** to the lever **28**.

[**0034**] The mop handle holding element **42** can be used with a centralised or substantially centralised lever of any mop wringer, irrespective of whether the mop wringer is a mechanically assisted or geared type mop wringer.

[**0035**] With a mop positioned in the basket **14** of the wringer **12**, the handle **32** of the mop can be held by the holding element **42** alongside the lever **28** of the wringer **12**. In this condition, the mop is reliably and positively supported without requiring external assistance, such as propping against a wall. The mop can thus be left unattended without risk.

[**0036**] The lever of the mop wringer described above is primarily intended to be a long-handled lever which, when operated, extends beyond the front edge of the bucket on which the mop wringer sits. However, short-handled lever, in other words levers which do not extend beyond the front edge of the bucket, can also be advantageously centralised on the drive bar.

[**0037**] The mechanically assisted mop wringer can have only one pressing member.

[**0038**] The 'mechanical assistance' of the wringer can take the form of a linkage arrangement at the or each side of the wringer which connects the lever and the or each pressing member, instead of, or additionally to, a gear mechanism.

[**0039**] By locating the lever of the wringer centrally or substantially centrally eliminates, or greatly reduces, undesirable turning and twisting moments imparted to the wringer and bucket. Force imparted by the user to the wringer and bucket is thus evenly or more evenly distributed, increasing the operational working life. Furthermore, left handed users are able to operate the wringer more easily. The mop handle is safely and securely supportable by the centralised lever, reducing the possibility of accidents.

[**0040**] The embodiments described above are given by way of examples only, and modifications will be apparent to persons skilled in the art without departing from the scope of the invention, as defined by the appended claims.

What is claimed is:

1. A mop wringer comprising a basket having an opening for accepting a mophead having mop material to be wrung, and a lever-operated mechanically assisted pressing mechanism including at least one press member for pressing the mop material of the mophead into or against the basket, an elongate lever for operating the press member, and a gear mechanism for transmitting movement of the lever to the or each press member, wherein the lever is positioned in a plane which bisects or substantially bisects the opening of the basket, so that forces imparted to the wringer via the lever are evenly or substantially evenly distributed.

2. A mop wringer as claimed in claim 1, wherein the said plane of the lever is spaced from a line equally bisecting the opening of the basket in a range which is greater than 0 mm and less than 20 mm.

3. A mop wringer as claimed in claim 1, wherein the said plane of the lever is spaced from a line equally bisecting the opening of the basket in a range of 10 mm to 15 mm.

4. A mop wringer as claimed in claim 1, wherein the lever operated pressing mechanism includes two said press members for pressing the mop material into or against the basket.

5. A mop wringer as claimed in claim 1, further comprising a holding element for releasably holding a handle attached to a mophead.

6. A mop wringer as claimed in claim 5, wherein the holding element is provided on the lever and supports the handle when the mophead is positioned in the basket.

7. A mop holding element for a lever of a mop wringer as claimed in claim 1, the holding element comprising means for securing the holding element to the lever of the wringer, and a gripping portion for releasably gripping a mop handle attached to the mophead.

8. A mop holding element as claimed in claim 7, wherein the gripping portion includes two jaws between which the mop handle can be push-fit inserted.

9. A mop holding element as claimed in claim 7, wherein the securing means is a clamp by which the holding element is clamped to the lever.

10. A bucket in combination with a mop wringer comprising a basket having an opening for accepting a mophead having mop material to be wrung, and a lever-operated mechanically assisted pressing mechanism including at least one press member for pressing the mop material of the mophead into or against the basket, an elongate lever for operating the press member, and a gear mechanism for transmitting movement of the lever to the or each press member, wherein the lever is positioned in a plane which bisects or substantially bisects the opening of the basket, so that forces imparted to the wringer via the lever are evenly or substantially evenly distributed, the mop wringer being detachably attachable to the bucket.

11. A combination as claimed in claim 10, wherein the lever of the mop wringer, in a pressing condition, extends beyond the front edge of the bucket.

12. A combination as claimed in claim 10, further comprising a holding element having means for securing the holding element to the lever of the wringer, and a gripping portion for releasably gripping a mop handle attached to the mophead.

* * * * *