J. ROCKE.

GEARING.

APPLICATION FILED FEB. 3, 1910.

1,041,352.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.

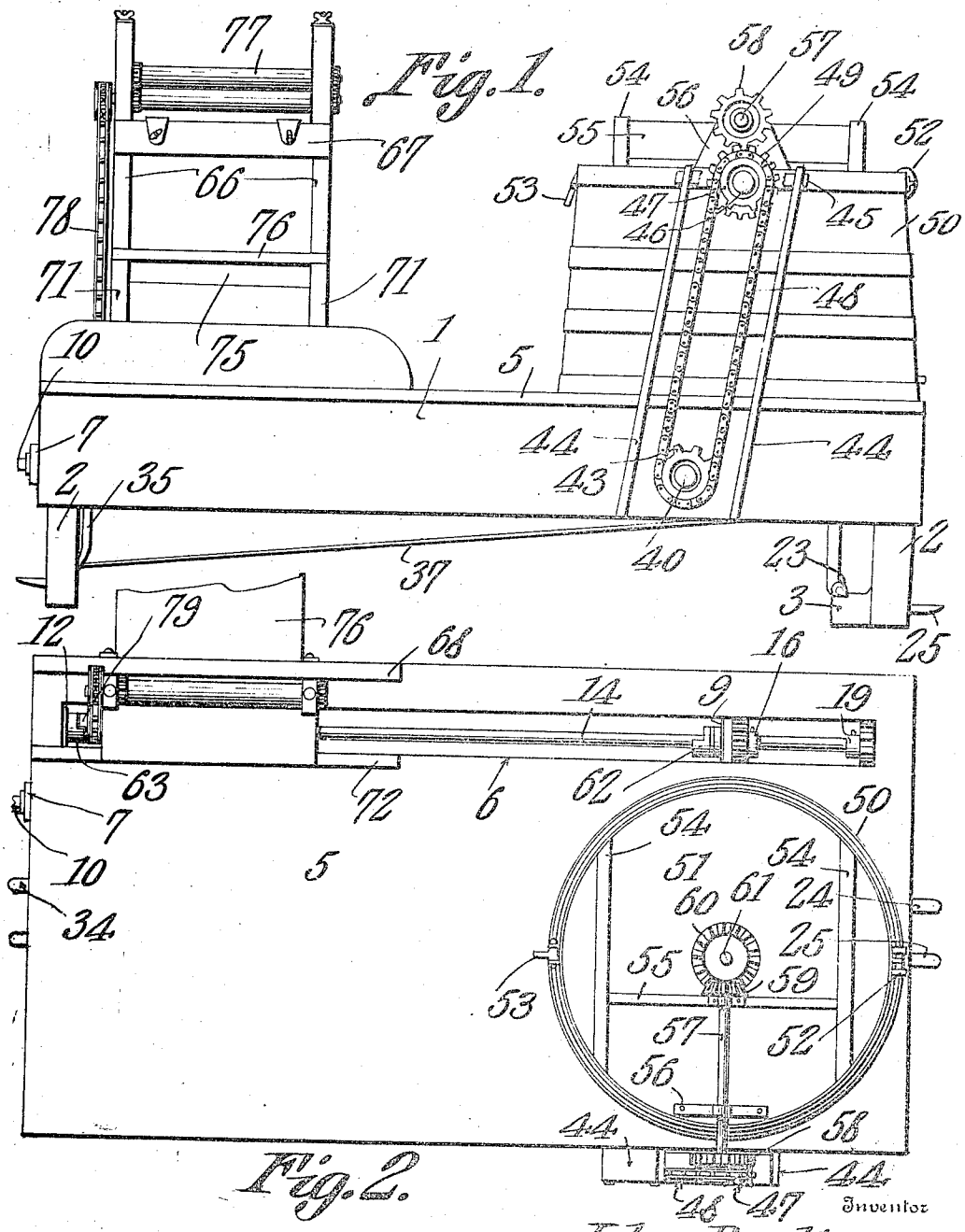

Fig. 1.

Fig. 2.

Witnesses

Mason B. Lawton

Inventor

John Rocke.

By Church & Co.

Attorneys

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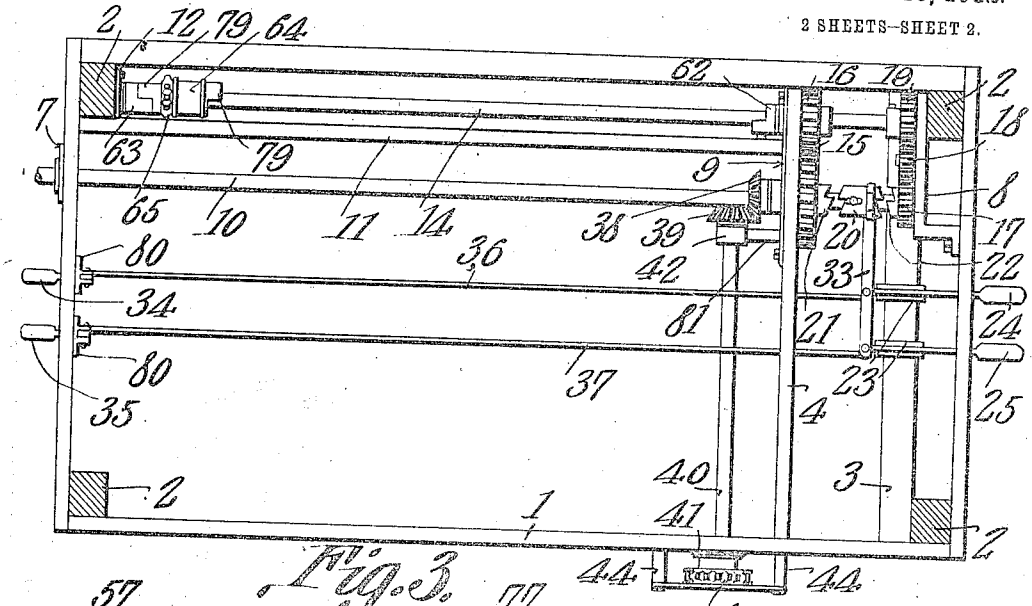

Fig. 3.

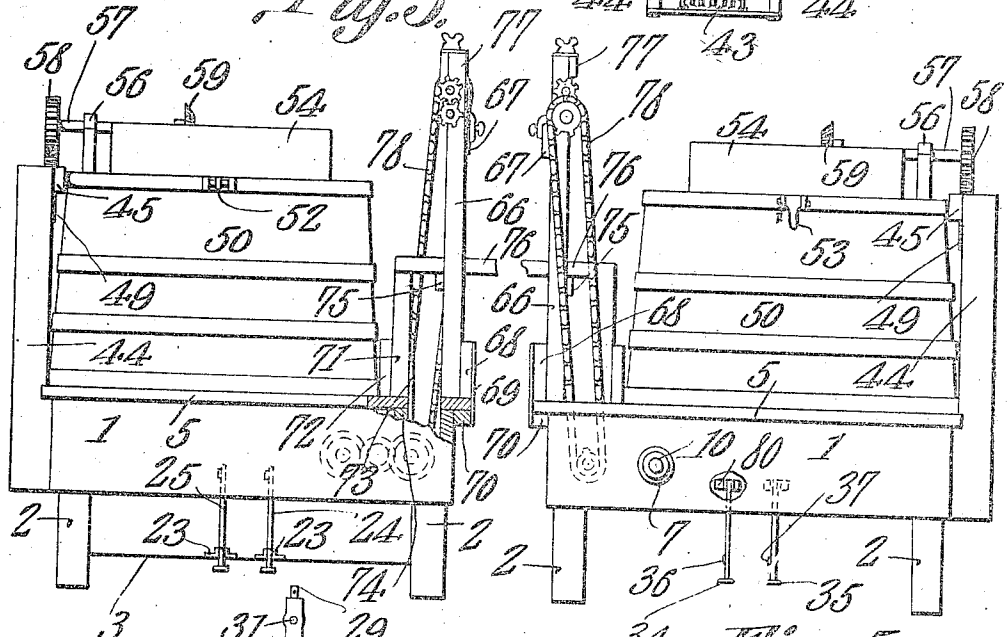

Fig. 4.

Fig. 5.

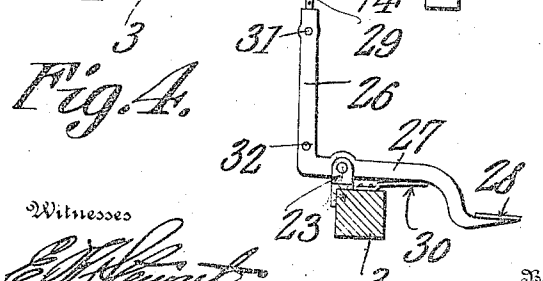

Fig. 6.

Witnesses

E. F. Stewart

Mason B. Lawton

Inventor

John Rocke.

By Church & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN ROCKE, OF MEADOWS, ILLINOIS.

GEARING.

1,041,352. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed February 3, 1910. Serial No. 541,695. REISSUED

To all whom it may concern:

Be it known that I, JOHN ROCKE, a citizen of the United States, residing at Meadows, in the county of McLean and State of Illinois, have invented a new and useful Gearing, of which the following is a specification.

It is the object of this invention to provide a device so constructed that a washing machine, of any approved type may be operated simultaneously with a wringer, from a single drive shaft.

Another object of the invention is to provide a housing upon which a washing machine may be placed and to provide a slidably mounted frame, upon which a wringer may be placed, the construction being such that the frame may be advanced toward the washing machine, to be used in connection therewith, or retracted therefrom, to be used in wringing clothes from a separate tub.

Another object of the invention is to provide a device equipped with a slidably mounted wringer-frame, means being provided for reversing the wringer at will.

Another object of the invention is to provide a mechanism for operating a washing machine, and to provide an auxiliary mechanism adapted to be connected operatively, at the will of the operator, with the mechanism for operating the washing machine, the mechanism thus connected with the operating mechanism of the washing machine being arranged to operate a wringer.

With the above and other objects in view, the invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the drawings, and claimed, it being understood that changes, properly falling within the scope of what is claimed, may be made, without departing from the spirit of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings,—Figure 1 is a side elevation; Fig. 2 is a top plan; Fig. 3 is a top plan of the housing, parts being removed in order to reveal the internal construction of the device; Fig. 4 is an elevation of one end of the device; Fig. 5 is an elevation of the opposite end of the device; Fig. 6 is a side elevation of one of the pedals whereby the wringer is reversed.

The housing or main frame upon which my invention is mounted, consists of a rectangular frame 1, having legs 2 at its corners. The sides of the frame 1 are connected by a transverse sill 4, and one pair of the legs 2 are connected by a sill 3, there being a longitudinally extended sill 11 connecting the sill 4 with one end of the frame 1. Mounted upon the frame 1 and extended slightly beyond the same, is a flat top 5, which, adjacent one of the longer edges of the frame, is slotted as shown at 6.

At one end of the frame 1 there is a bearing 7, and at the opposite end of the frame and located within the contour of the same, there is a bracket bearing 8, a bearing 9 being mounted upon the sill 4. Journaled for rotation in these bearings 7, 8 and 9, and protruding through the bearing 7 beyond the end of the frame 1, is a drive shaft 10, it being understood that any suitable means for operating the drive shaft, may be connected with that portion thereof which outstands beyond the bearing 7.

To one of the corner posts 2, a bearing 12 is secured, and in this bearing, and in the bearings 9 and 8, there is journaled for rotation an auxiliary shaft 14, disposed substantially parallel to the drive shaft 10, and located beneath the slot 6 in the top 5 of the housing.

A pinion 15 is loose upon the shaft 10, and this pinion is in mesh with a pinion 16 which is fixed upon the auxiliary shaft. These pinions 15 and 16 are located adjacent the cross sill 4. Adjacent the bracket bearing 8, a pinion 17 is mounted for free rotation upon the drive shaft 10. This pinion 17 is in mesh with an intermediate pinion 18 which is secured for rotation to the bracket bearing 8, the intermediate pinion 18 being in mesh with a pinion 19, secured to the auxiliary shaft 14.

A clutch 20 is slidably mounted upon the drive shaft 10, between the pinions 15 and 17, for rotation with the shaft 10. This clutch may be shifted to engage alternately, a shoulder 21 upon the pinion 15, and a shoulder 22 upon the pinion 17.

A pedal mechanism is provided whereby the clutch 20 may be shifted from opposite ends of the frame 1, one element of this mechanism for shifting the clutch, being shown in detail in Fig. 6. Brackets 23 are mounted upon the cross sill 3, pedals 24 and 25 being pivotally mounted in these brackets.

By referring to Fig. 6 of the drawings, it will be seen that these pedals consist of an upright arm 26 and a rectangularly disposed arm 27 whereby the pedal is directly connected with the bracket 23. The portion 27 of the pedal terminates in a foot-plate 28, and the portion 26 of the pedal terminates in an upright finger 29. One end of a spring 30 is secured to the sill 3, the other end of the spring bearing upwardly against the portion 27 of the pedal. In the portion 26 of the pedal, there are spaced openings 31 and 31.

The clutch lever 33, seen most clearly in Fig. 3, is pivotally mounted at spaced points, upon the fingers 29 of the pedals 25 and 24, the end of the clutch lever 33 being so constructed that the clutch 20 may rotate freely therein, the clutch lever being arranged, however, to shift the clutch 20 longitudinally of the shaft 10 upon which it is mounted.

At the opposite end of the frame 1, pedals 34 and 35 are suspended from the end of the frame 1. These pedals 34 and 35 are disposed in brackets 80, the retaining elements being extended through the openings 31. A rod 36 connects the pedal 34 with the pedal 24, and a rod 37 connects the pedal 35 with the pedal 25, the rod 36 being connected with the pedal 34 at the opening 32 therein, and said rod is connected with the pedal 24 at the opening 31 therein; the rod 37 being similarly connected with the pedals 35 and 25. Owing to the fact that the pedal 24 is pivoted intermediate its ends, while the pedal 34 is pivoted at its upper end, a pressure upon either of the pedals 24 or 34 will operate to advance the rod 36 in the same direction; and the same observation is true with respect to the pedals 35 and 25 and the rod 37 whereby they are connected.

A beveled pinion 38 is secured to the shaft 10 adjacent the cross sill 4, this beveled pinion being in mesh with a beveled pinion 39 secured to the end of a shaft 40, disposed substantially at right angles to the drive shaft 10, and journaled for rotation in a bearing 41 on the exterior of the frame 1, and in a bearing 42 which is carried at the end of an arm 81, projecting from the bearing 9.

The end of the shaft 40 protrudes beyond the frame 1, and upon the protruding portion of the shaft there is secured a sprocket wheel 43. To the frame 1 upon either side of this sprocket 43, are secured spaced, upright arms 44, connected at their upper ends by a plate 45, in which is journaled a stub shaft 46, carrying, at its outer end, a sprocket wheel 47, the sprocket wheel 47 being connected with the sprocket wheel 43 by means of a suitable chain 48.

Secured to the top 5 of the housing, adjacent one end thereof, is a tub 50, provided with a lid 51, secured to the tub by means of a hinge 52, and retained upon the tub by means of a catch 53, the lid of the tub opening longitudinally of the frame 1. Upon the top of the lid 51 are disposed cleats 54, transversely of the frame 1, these cleats 54 being united by a brace 55. A bearing 56 disposed substantially parallel to the brace 55, is secured to the lid 51, and in the brace 55 and the bearing 56, is journaled for rotation, a shaft 57, having at its outer end, a pinion 58, adapted to mesh with the pinion 49 upon the stub shaft 46 when the lid 51 is in closed position. Upon the inner end of the shaft 57 there is a beveled pinion 59, in mesh with a beveled pinion 60, secured to the upper end of a shaft 61, journaled in upright position for rotation within the tub 50, the agitating mechanism within the tub 50 being carried by the lower end of the shaft 61, it being understood that this agitating mechanism may be of any desired construction.

Referring to Fig. 3, it will be seen that a shouldered sleeve 62 is secured to the auxiliary shaft 14 in the vicinty of the transverse sill 4, a similarly constructed shouldered sleeve 63 being secured to the shaft adjacent the corner post 2 upon which the bearing 12 is mounted. A sleeve 64 is mounted upon the auxiliary shaft 14 between the elements 62 and 63, the shaft 14 being normally free to rotate within the sleeve 64. The sleeve 64 carries a sprocket wheel 65, so that the sleeve is adapted to serve as a loose pulley upon the shaft 14. The sleeve 64 is terminally provided with outstanding lugs 79, adapted to interlock with the shouldered sleeves 62 and 63 when the sleeve 64 is slid from one end of the auxiliary shaft 14 to the other.

The rack or supplemental frame for the support of the wringer consists of a pair of uprights 66, disposed adjacent one edge of the top 5 of the housing, these uprights being connected at their upper ends by a slat 67. The lower ends of the uprights 66 are connected by a bearing strip 68, adapted to slide along the top 5 adjacent the edge thereof. By means of straps 69, the bearing strip 68 is connected with a guide strip 70, which slides along the lower edge of that portion of the top 5 which outstands beyond the rectangular frame 1. Inner uprights 71 are connected by a bearing strip 72, adapted to slide along the top of the member 5. By means of straps 73, the uprights 71 are connected with a guide strip 74, adapted to slide along the lower face of the top 5, the strap 73 moving in the slot 6 in the top 5. The uprights 66 are connected by means of a brace 75, and the uprights 71 are similarly connected. Upon these braces 75, rests a platform 76, which outstands beyond the contour of the frame 1.

To the slat 67, the wringer 77 may be secured, the wringer being operatively con-

nected with the sprocket 65 upon the sleeve 64, by means of a suitable chain 78.

The operation of the device is as follows:—When the drive shaft 10 is put into rotation, the beveled gears 38 and 39 will cause a rotation of the shaft 40, the shaft 40 carrying with it the sprocket wheel 43, which, through the medium of the chain 48 and the sprocket wheel 47, will cause a rotation of the stub shaft 46, the pinion 49 upon the stub shaft, meshing with the pinion 58, causing a rotation of the shaft 57, the shaft 57 operating, through the beveled pinions 59 and 60, to rotate the upright shaft 61, upon which the agitating mechanism within the tub 50 is located. In order to throw the washing machine out of gear, the catch 53 is loosened, and the lid 51 raised, pivoting upon the hinge 52. When the lid is thus raised, the pinion 58 will be lifted out of mesh with the pinion 49.

Let it be supposed, as shown in Fig. 3, that the sleeve 64 is interlocked with shouldered sleeve 63. Under such conditions, the wringer rack will be disposed, as shown in Fig. 1, adjacent one end of the frame 1, and at a point remote from the tub 50.

While the washing machine is being operated as hereinbefore described, the springs 30 will normally hold the several pedals 34, 35, 24 and 25 in such positions that the clutch 20 will remain, as shown in Fig. 3, midway between the pinions 15 and 17, the drive shaft 10 rotating, without actuating the auxiliary shaft 14. By pressing upon the pedal 24 or the pedal 34, the clutch lever 33, pivoting upon the finger 29 of the pedal 25 will move the clutch 20 to interlock with the shouldered sleeve 22 of the pinion 17. The pinion 17 thus being put into rotation, will, through the medium of the pinion 18, cause a rotation of the pinion 19, and consequently a rotation of the shaft 14, the rotation of the shaft 14 causing a rotation of the sleeve 64, the sprocket 65 of which will engage the chain 78, operating the wringer 77 in one direction. If, however, either of the pedals 25 or 35 be pressed, the lever 33 pivoting upon the finger 29 on the pedal 24 will move the clutch 20 to engage the shouldered sleeve 21, causing a rotation of the pinion 15, which, through the medium of the pinion 16, will cause a rotation of the auxiliary shaft 14, in an opposite direction to that hereinbefore mentioned. Thus, by operating alternately, the pedals 24 and 25 at one end of the device, or the pedals 34 and 35 at the other end thereof, the direction in which the wringer 77 is operated, may be reversed.

When desired, the wringer-supporting rack composed of the uprights 66 and their adjacent elements, may be slid longitudinally of the frame 1, from a point remote from the tub 50 to a point adjacent thereto, the wringer-supporting rack being alined transversely of the frame 1, with the tub 50, the sleeve 64, in such case interlocking with the shouldered sleeve 62. Obviously, when the wringer and its supporting mechanism are disposed adjacent the tub 50, the direction of rotation of the wringer rolls may be reversed by means of the pedals 24 and 25, or 34 and 35, as hereinbefore pointed out.

When the wringer-supporting rack is disposed at a point remote from the tub 50, the elements 79 and 63 being in engagement, the wringer 77 may be operated to wring clothes out of a rinsing tub, disposed upon the top 5, the platform 76 serving to support any suitable receptacle for the reception of the clothes after they are wrung out. Thus, while the washing machine is in operation, the wringer may be employed to wring out clothes which have been previously washed in the tub 50 and placed in a rinsing tub. Or, if desired, the wringer-supporting rack may as hereinbefore described, be slid to a point adjacent the tub 50, the wringer 77 in such case being operative to wring the garments directly from the tub 50.

Owing to the coöperation between the several pedals 24, 25, 34, and 35 and the several springs 30, the clutch 20 will normally be maintained at a point midway between the shouldered sleeves 22 and 21. Thus, the wringer-operating mechanism is out of engagement with the drive shaft 10, except when one of the said pedals is pressed. The washing machine is, as hereinbefore pointed out, out of engagement with the operating mechanism when the lid 51 of the tub 50 is thrown open.

Having thus described the invention, what is claimed is:—

1. A device of the class described comprising a main frame; a shaft journaled for rotation in said frame; a supplemental frame slidably mounted upon the main frame for movement in a single fixed plane longitudinally of the shaft; operating means upon the supplemental frame; means for operatively connecting said operating means with the shaft at spaced points along the shaft; means for driving the shaft; and means for reversing the rotation of the shaft.

2. A device of the class described comprising a main frame; a shaft journaled for rotation in said frame; a supplemental frame slidably mounted upon the main frame for movement in a single fixed plane longitudinally of the shaft; operating means upon the supplemental frame and spaced from the main frame; means for operatively connecting said operating means with the shaft at spaced points along the shaft; means for driving the shaft; means for reversing the rotation of the shaft; and spaced pedals upon the main frame for the

operation of the reversing means, the pedals being yieldingly held in inoperative position.

3. A device of the class described comprising a main frame adapted to serve as a foundation structure for driven mechanism; a drive shaft and an auxiliary shaft, both journaled for rotation in said frame; spaced gear trains inoperatively connecting the drive shaft with the auxiliary shaft; a clutch operating upon the drive shaft between the gear trains and operative to connect the same, alternately, with the drive shaft to reverse the rotation of the auxiliary shaft; and pedals upon the frame for operating the clutch from opposite ends of the main frame.

4. A device of the class described comprising a main frame; an auxiliary shaft journaled for rotation in said frame; a supplemental frame slidably mounted upon the main frame for movement longitudinally of the auxiliary shaft; a pulley slidably mounted upon the auxiliary shaft; a belt carried by the pulley; mechanism upon the supplemental frame operable by the belt; elements upon the auxiliary shaft to lock the pulley at spaced points for rotation with said shaft; a drive shaft journaled for rotation in the main frame; spaced gear trains inoperatively connecting the drive shaft with the auxiliary shaft; and a clutch operating upon the drive shaft between the gear trains and operative to connect the same, alternately, with the drive shaft to reverse the rotation of the auxiliary shaft.

5. In a machine of the character described, in combination, a main frame, an operating shaft, a driving member slidably carried on said shaft and arranged to have a clutch connection with said shaft, driving means slidably mounted on said frame, and a permanent connection between said driving means and said driving member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN ROCKE.

Witnesses:
E. W. GODDARD,
A. B. PIXLEY.