No. 713,172. Patented Nov. 11, 1902.

C. H. SWORD.

WASHING MACHINE.

(Application filed Nov. 21, 1901.)

(No Model.)

Fig. 1.

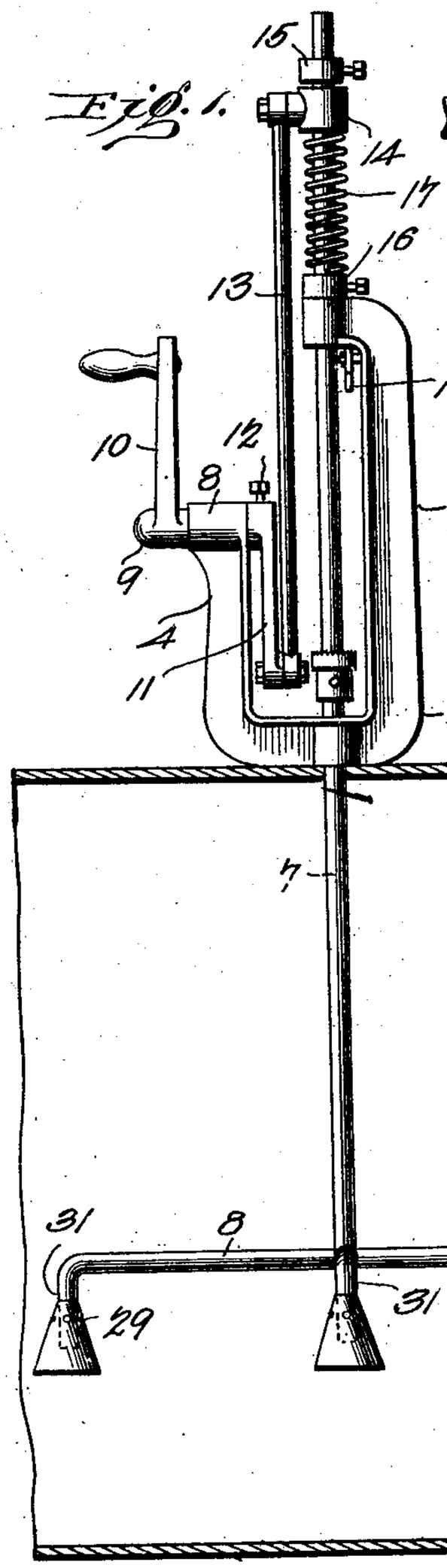


Fig. 3.

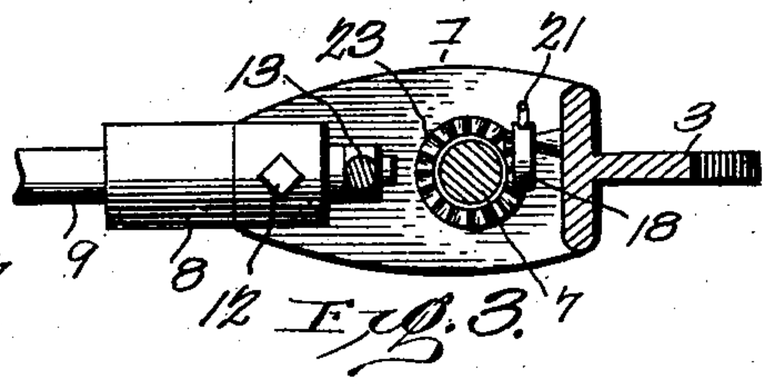


Fig. 2.

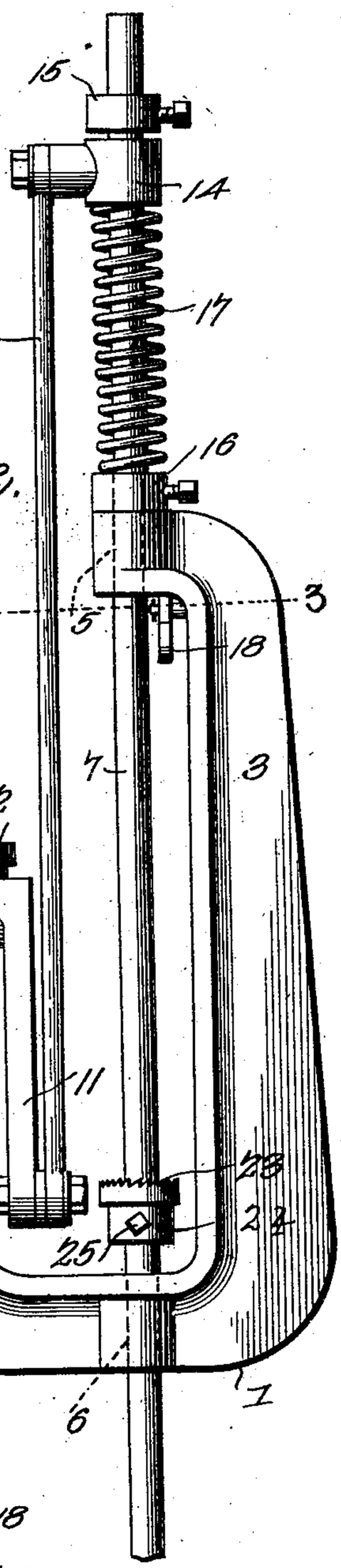
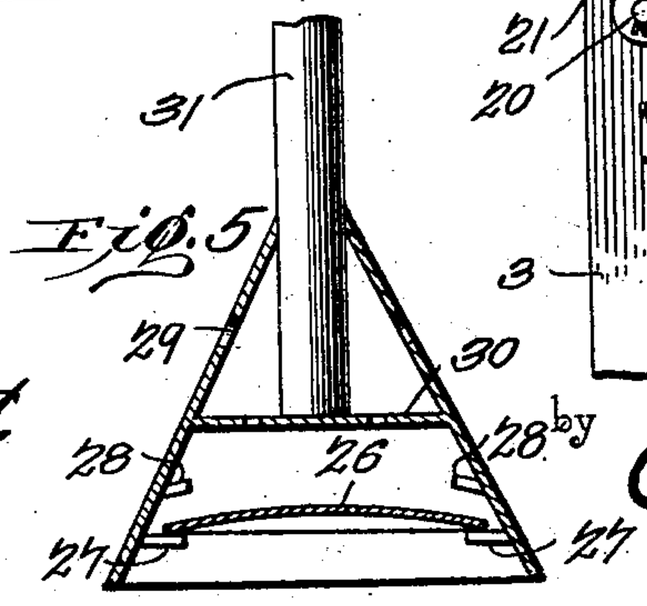


Fig. 4.

Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

CALVIN H. SWORD, OF LANARK, ILLINOIS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 713,172, dated November 11, 1902.

Application filed November 21, 1901. Serial No. 83,158. (No model.)

To all whom it may concern:

Be it known that I, CALVIN H. SWORD, a citizen of the United States, residing at Lanark, in the county of Carroll and State of Illinois, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines and to provide a simple, inexpensive, and efficient one of great strength and durability, adapted to be operated at the expenditure of a minimum amount of labor and capable of yieldingly and uniformly engaging the clothes, whereby the same will be thoroughly washed without liability of injuring the fabrics.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation, partly in section, of a washing-machine constructed in accordance with this invention. Fig. 2 is an enlarged view of the operating mechanism. Fig. 3 is a horizontal sectional view of the operating mechanism on the line 3 3 of Fig. 2. Fig. 4 is an enlarged detail view of the ratchet mechanism. Fig. 5 is an enlarged detail view of one of the pounders.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a bearing-bracket secured to the top 2 of a washing-machine body 3^a and provided with upwardly-extending arms 3 and 4, the arm 3 being of greater length than the arm 4 and provided at its top with an opening 5, arranged in alinement with a bottom opening 6 and receiving a vertically movable stem 7. The rod or stem 7, which is capable of vertical reciprocation, is provided at its bottom with arms 8, carrying pounders 9. The other arm 4 of the bearing-bracket is provided with a horizontal bearing 8, receiving a short shaft 9, having a crank-handle 10 at its outer end and provided at its inner end with a crank 11. The crank 11, which is detachably secured to the shaft 9 by a clamping-screw 12 or other suitable means, is connected by a pitman-rod 13 with the vertically-movable stem 7. The pitman is connected at its upper end to a sliding head or sleeve 14, which is arranged upon the upper portion of the stem between collars 15 and 16. The collars 15 and 16 are provided with clamping-screws to enable them to be readily adjusted on the stem, and a coiled spring 17 is interposed between the lower collar and the head or sleeve 14. When the shaft 9 is rotated, the pitman will vertically reciprocate the stem or rod 7, and on the downward stroke the coiled spring will permit the pounders to yield to prevent the same from injuring the clothes or other fabrics being washed.

The stem is partially rotated at each upward stroke of the pitman by means of a pivoted spring-engaged pawl 18, mounted on the bearing-bracket at the top of the arm 3. The bearing-bracket is provided with a pin or pivot 20 to receive the pawl 18, which is curved, as illustrated in Fig. 4 of the drawings. The pin 20 is arranged adjacent to one end of the pawl or dog, and the latter is provided with a projection 21, extending from its end and arranged to engage the top of the bearing-bracket to limit the downward swing of the pawl. The spring 22, which is arranged above the pawl or dog, is secured at one end to the bearing-bracket, and its other end is free, as shown. The stem is provided with an adjustable ratchet-wheel 23, arranged horizontally and provided with a sleeve or extension 24, which is secured to the stem by a set-screw 25. The teeth, which are arranged at the top of the ratchet-wheel, are shouldered at one side and are beveled at the opposite side, and when the stem moves upward the ratchet-wheel will be carried into engagement with the pawl and will be partially rotated by the same. This will cause the pounders to be partially rotated within the washing-machine body at each stroke of the machine and the clothes and other fabrics will be uniformly and thoroughly operated on. By adjusting the ratchet-wheel vertically the rotary movement of the stem may be regulated and increased or diminished.

Each pounder is conical and is provided with a valve 26, consisting of a disk or plate

supported by lugs 27 and adapted when the pounder is moved downward to close automatically and capable of opening automatically when the pounder is raised. This will cause air to be forced through the clothes on the downward stroke and will permit air to enter the pounders and prevent the same from lifting a quantity of water when the stem is raised. The disk or plate is slightly concavo-convex, and its upward movement is limited by lugs 28, arranged at intervals and adapted to retain the disk or plate in proper position. The pounder is provided at its top with perforations 29, and a diaphragm or partition 30, which is arranged within the pounder, is also provided with perforations. The flange or partition supports the pounder and is secured to the depending portion 31 of the arm 8.

It will be seen that the washing-machine is simple and comparatively inexpensive in construction, that it possesses great strength and durability, and that it is adapted to rapidly and thoroughly wash clothes without injuring the fabrics. It will also be apparent that the pounder yieldingly engages the clothes and that the ratchet-wheel is capable of vertical adjustment on the stem to regulate the rotary movement imparted to it by the pawl.

What I claim is—

In a washing-machine, the combination of a bearing-bracket having upwardly-extending short and long arms, the long arm being extended inward at its upper end, a vertically-movable rotary stem guided on the bottom of the bracket and on the inwardly-extending upper end of the long arm, a pair of collars adjustably secured to the stem and located above the bearing-bracket, a sleeve or head slidably arranged on the stem between the collars and a spring interposed between the head or sleeve and the lower collar, a crank-shaft mounted on the short arm, a pitman extending from the crank-shaft to the head or sleeve, a ratchet-wheel adjustably secured to the stem and located between the bottom of the bracket and the upper end of the long arm, a pawl pivotally mounted on the long arm adjacent to the upper end thereof and arranged to be engaged by the ratchet-wheel, and a spring interposed between the upper end of the long arm and the pawl, substantially as described.

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

CALVIN H. SWORD.

Witnesses:
D. C. GAULT,
H. J. TEACHOUT.