

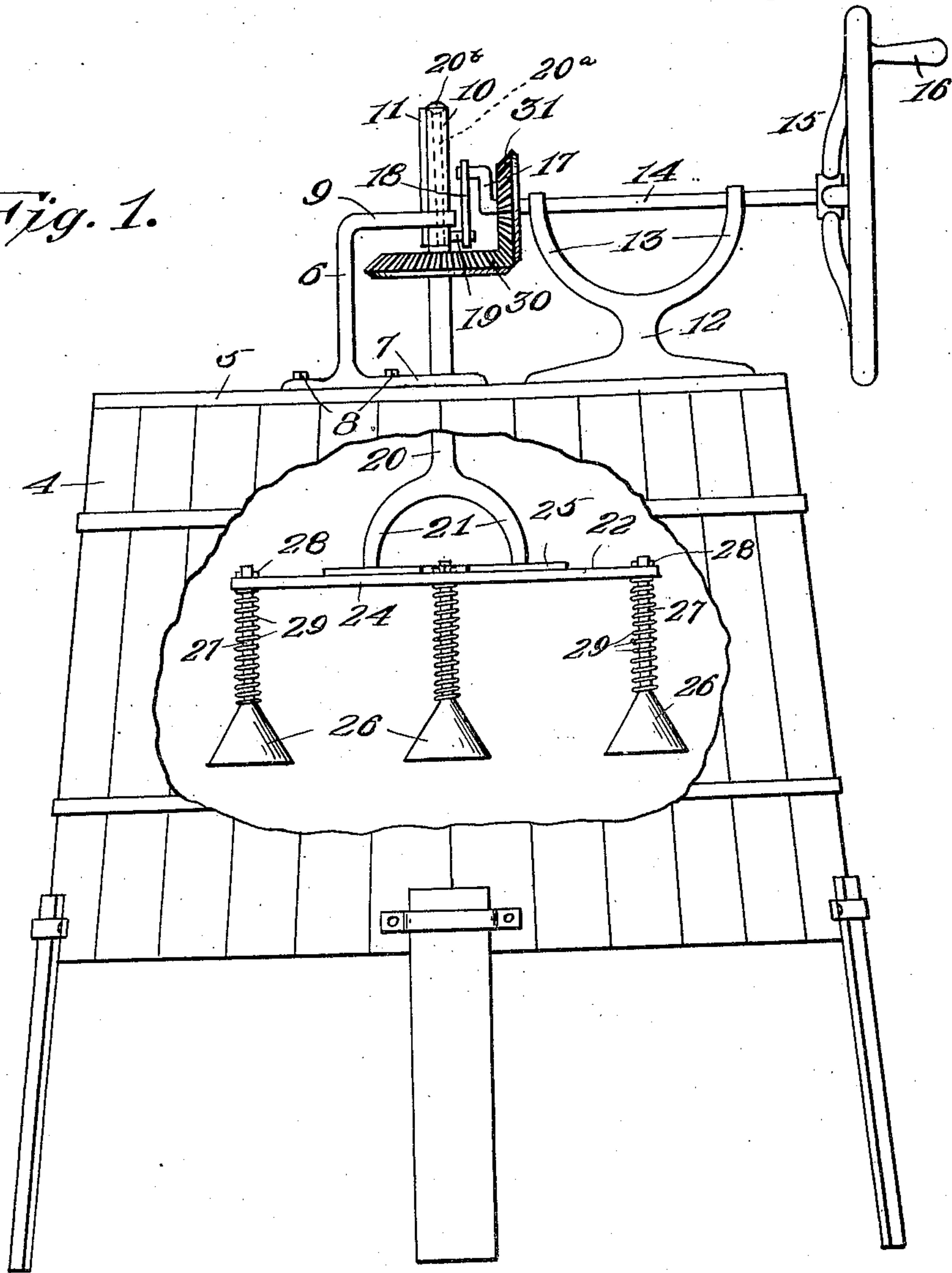
A. S. NERO.  
WASHING MACHINE.  
APPLICATION FILED MAR. 19, 1909.

934,458.

Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

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Fig. 2.

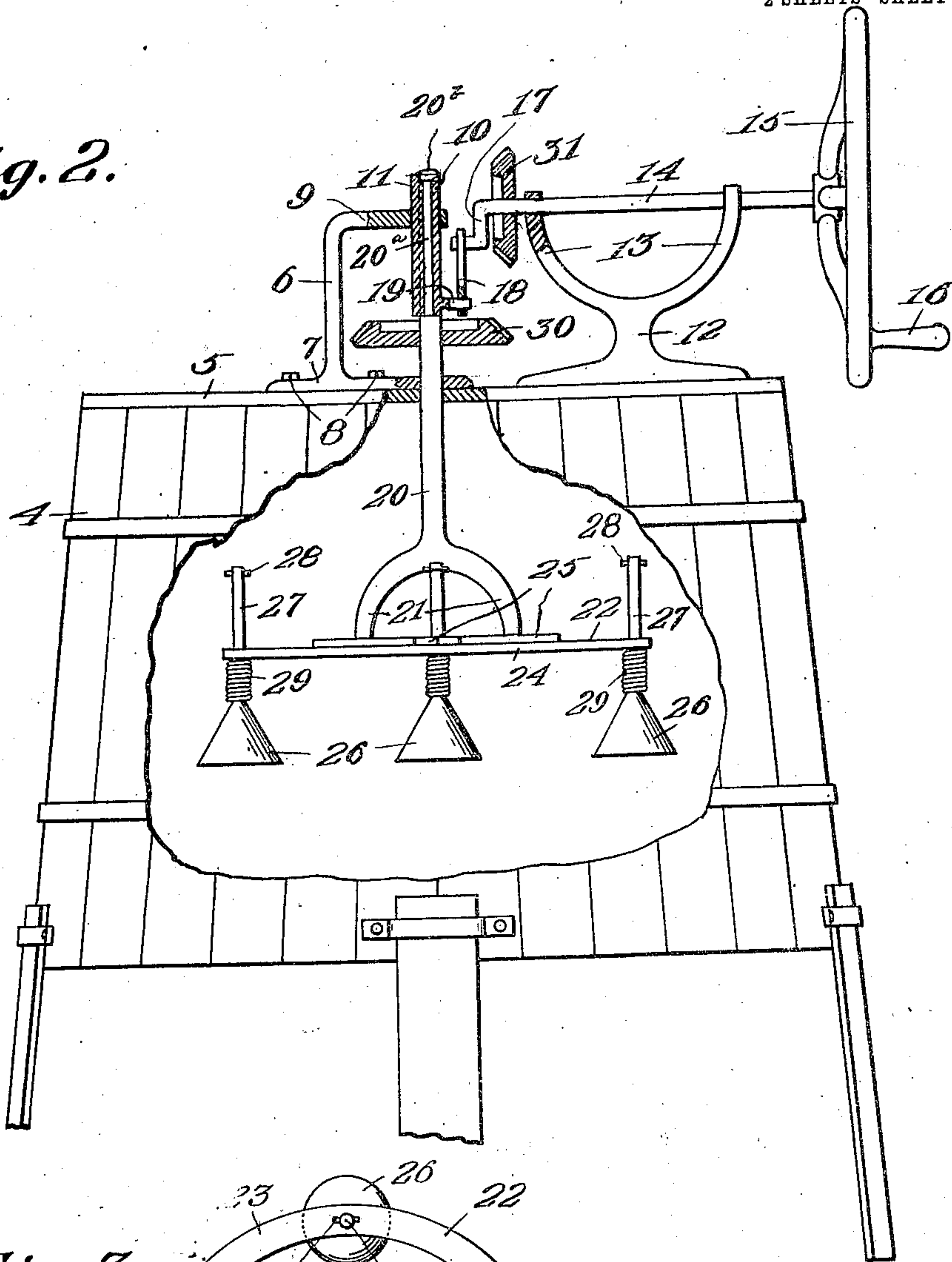
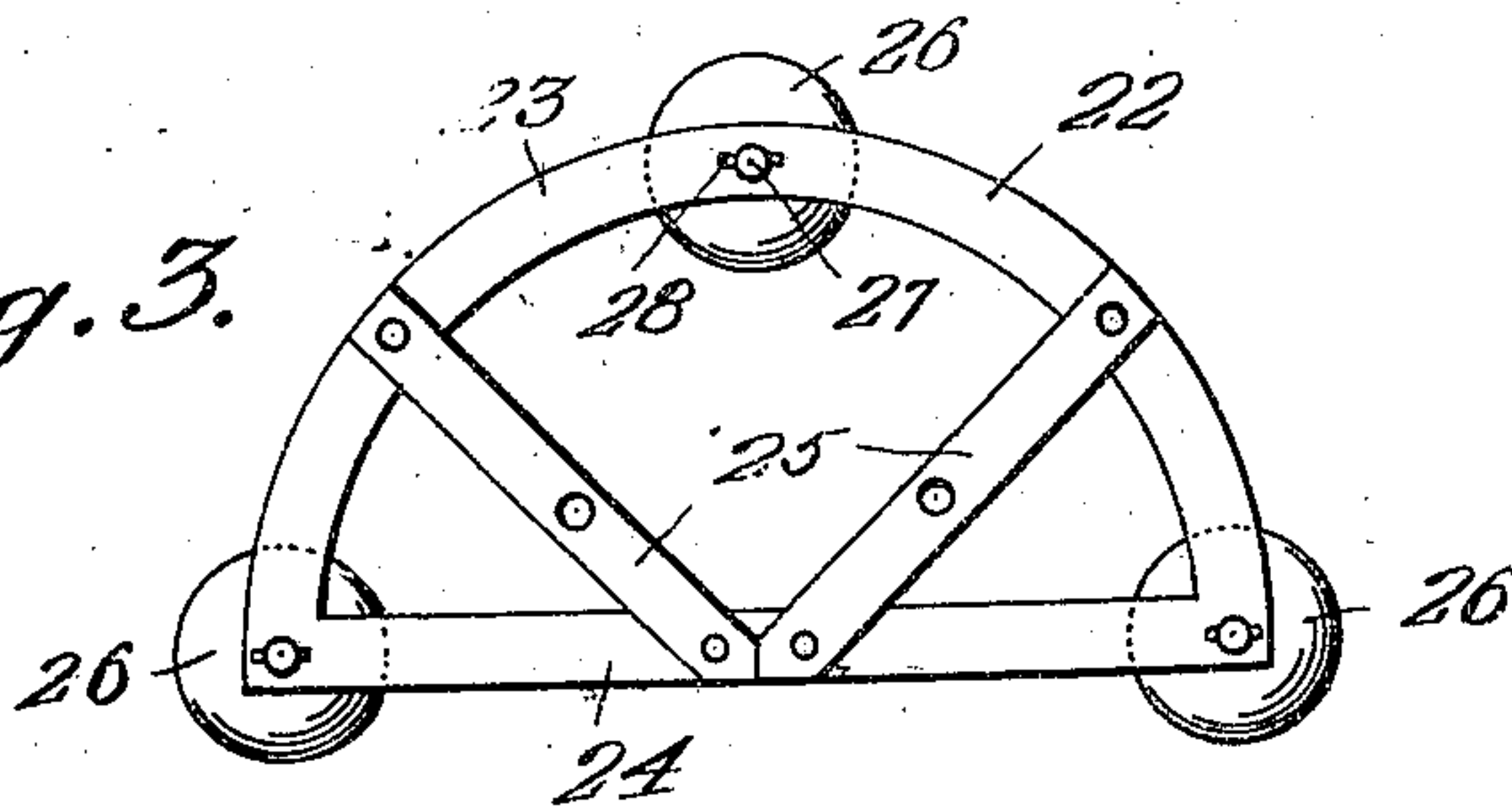


Fig. 3.



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# UNITED STATES PATENT OFFICE.

ALLEN S. NERO, OF BOTTINEAU, NORTH DAKOTA.

WASHING-MACHINE.

934,458.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed March 18, 1909. Serial No. 484,556.

*To all whom it may concern:*

Be it known that I, ALLEN S. NERO, a citizen of the United States, residing at Bottineau, in the county of Bottineau and State of North Dakota, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to machines for washing clothes and the like and more especially to that class known as pounder washing machines and its general object is to improve the construction and operation of such machines.

A special object of my invention is to provide a machine of this class with improved means for causing the pounders to be moved to different parts of the tub during the operation of pounding the clothes, so that all parts of the contents of the tub will be operated upon and thoroughly cleansed.

With these objects in view, my invention consists in the improved construction, arrangement and combination of parts of a machine of this class, hereinafter fully described and afterward specifically pointed out in the appended claims.

In order that my invention may be readily understood, I will now proceed to describe the same in connection with the accompanying drawings, in which—

Figure 1 is a view in side elevation, showing my improved machine, with the pounders raised in position to be turned on their vertical support to a different position in the tub, part of the tub being broken out. Fig. 2 is a similar view showing the pounders in their lowermost position which they reach once in each operation. Fig. 3 is a top plan view of the frame which carries the pounders.

Referring specifically to the drawings, 4 indicates a tub of any ordinary construction, to receive the clothes to be washed, and provided with a top 5. Upon the top 5 is secured a bracket 6 composed of a horizontal base 7 secured to the top by any suitable means such as screws, bolts or rivets 8, and provided with an opening in line with the vertical axis of the tub, and a horizontal arm 9 having an opening also in a vertical line with the axis of the tub.

Fitted in the opening in the arm 9, in a manner to permit of vertical sliding but to prevent rotation, is a vertically slidable tubular bar 10, such mounting being in this instance effected by providing on said bar a longitudinal key 11 to slide in a key seat in the opening in the arm 9 of the bracket.

Mounted in any suitable manner on the top 5 of the tub, is a second bracket 12 provided with two arms 13 in which arms is journaled a shaft 14 provided with a suitable fly wheel 15 having a crank handle 16, or other suitable means for rotating it. At the inner end of the shaft 14 is a crank arm 17 connected by means of a link 18 with a pin 19 on the slidable bar 10.

Mounted in the opening in the base 7 of the bracket 6, in the vertical axis of the tub, and arranged to both slide and rotate therein, is a bar 20, forked at its lower end, inside of the tub, as at 21. The upper end of the bar 20 has a reduced cylindrical portion 20<sup>a</sup> which rotates in the tubular bar 10, thereby providing a swiveled connection between said bars. Said end 20<sup>a</sup> of the bar 20 may be retained in the tubular bar 10 in any suitable manner. As illustrated, however, an enlargement or head 20<sup>b</sup> is provided at the upper extremity of the portion 20<sup>a</sup>.

22 indicates a frame of suitable form, shown in this instance as of a substantially semi-circular bar 23 joined at its ends by a straight bar 24, said bars being strengthened and stiffened by braces 25, which latter are secured to the forked arms 21 of the vertical swiveled bar 20.

At 26 are indicated a suitable number of pounders, in this instance three, of a usual inverted funnel shape, the supporting bars 27 of which are vertically slidable in openings in the bars 23 and 24 of the frame 22 and are prevented from dropping out of said openings by pins 28. Between the pounders and the bars 23 and 24, are springs 29 coiled around the poulder bars 27 which serve to normally hold the pounders in their lowermost positions with relation to said bars, but which also permit them to yield and rise when any extraordinary obstruction, such as closely packed clothing for instance, may be encountered, and to always bear upon the clothes with yielding pressure and prevent damage thereto.

Upon the upper end of the poulder supporting swiveled bar 20 is secured a bevel gear 30 which is adapted to engage with a bevel gear 31 on shaft 14 when bar 20 is at



the upper end of its reciprocation due to the crank 17.

To operate the machine, after placing the clothes with suitable soap and water or other cleanser in the tub, the shaft 14 is turned by means of the crank handle 16, or other suitable means which may be provided, which rotation of the shaft, through the medium of the crank 17, link 18 and pin 19, causes the bar 10 to be vertically reciprocated, carrying with it the bar 20 and pounders 26; the latter in their downward movement, pounding and cleansing the clothes with which they contact, in the usual manner.

It will be observed that the pounders are arranged eccentrically with reference to the vertical axis of the tub and that they are not sufficient in number and size to act upon all of the clothes in the tub at each reciprocation, as such a large number would be unwieldy and cumbersome. As the pounders and their supporting bar 20 rise, the bevel gear 30 engages the bevel wheel 31 so that the bar 20 is turned a partial rotation and the pounders carried around to a new position above another portion of the clothes in the tub. The repetition of this adjustment of the positions of the pounders at each reciprocation assures that all portions of the mass of clothes in the tub will be acted upon and equally cleansed.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination of a bearing, a vertically disposed tubular bar slidably but non-rotatably arranged in said bearing, a second vertical bar slidably mounted and having a swiveled connection with said tubular bar, a horizontally disposed shaft having a crank, a link connecting said crank to said tubular bar, a beveled gear fixed to said second mentioned swiveled bar and a beveled gear fixed to said horizontal shaft and adapted to mesh with the beveled gear on the swiveled bar upon the upper end of the vertical stroke of said swiveled bar.

2. The combination, in a machine of the character described, of a tub, a bar vertically reciprocable therein and provided with pounders arranged eccentrically in the tub, of a gear on the bar, a horizontal shaft provided with a crank operatively connected with the vertical bar, and a gear on the shaft adapted to mesh with the gear on the pounder

bar at the upper end of the upper stroke of said bar.

3. The combination, in a machine of the character described, of a tub, a bracket arranged upon the top of the same and having a lower portion formed with a bearing opening and an upper portion or arm formed with a vertically alining bearing opening, the latter having a key-way, a tubular bar slidable in the opening of the upper portion or arm of the bracket and formed with a laterally projecting lug and with a longitudinally extending key rib, the latter being arranged in said key-way to prevent said tubular bar from rotating, a vertical bar arranged for sliding and rotary movement in the bearing opening in the lower portion of the bracket and having a reduced upper end swiveled in said tubular bar, a beveled gear fixed to the upper portion of the second mentioned vertical bar, a frame fixed to the lower end of the second mentioned vertical bar, pounder cups having stems mounted for limited vertical sliding movement in said frame, coil springs on said stems for depressing the pounders, a bearing upon the top of the tub, a horizontal shaft in said bearing, means on the outer end of the shaft for rotating the same, a crank upon the inner end of the shaft, a link connecting said crank to the lug on said tubular bar and a beveled gear on said horizontal shaft and adapted to mesh with the beveled gear on the second mentioned vertical bar when the latter reaches the upper end of its vertical stroke.

4. The combination, in a machine of the character described, of a tub, a bracket on the top thereof, a bar slidably mounted in the bracket, a vertical bar swiveled longitudinally in the slidable bar, eccentrically arranged pounders carried by the swiveled bar, a bevel gear on the swiveled bar, a horizontal shaft journaled above the tub, a crank on the end of the shaft, a link connecting the crank with the slidable bar, and a bevel gear on the shaft adapted to mesh with the bevel gear on the swiveled bar at the upper end of the vertical stroke of the latter.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ALLEN S. NERO.

Witnesses:

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C. W. FEATHERS.