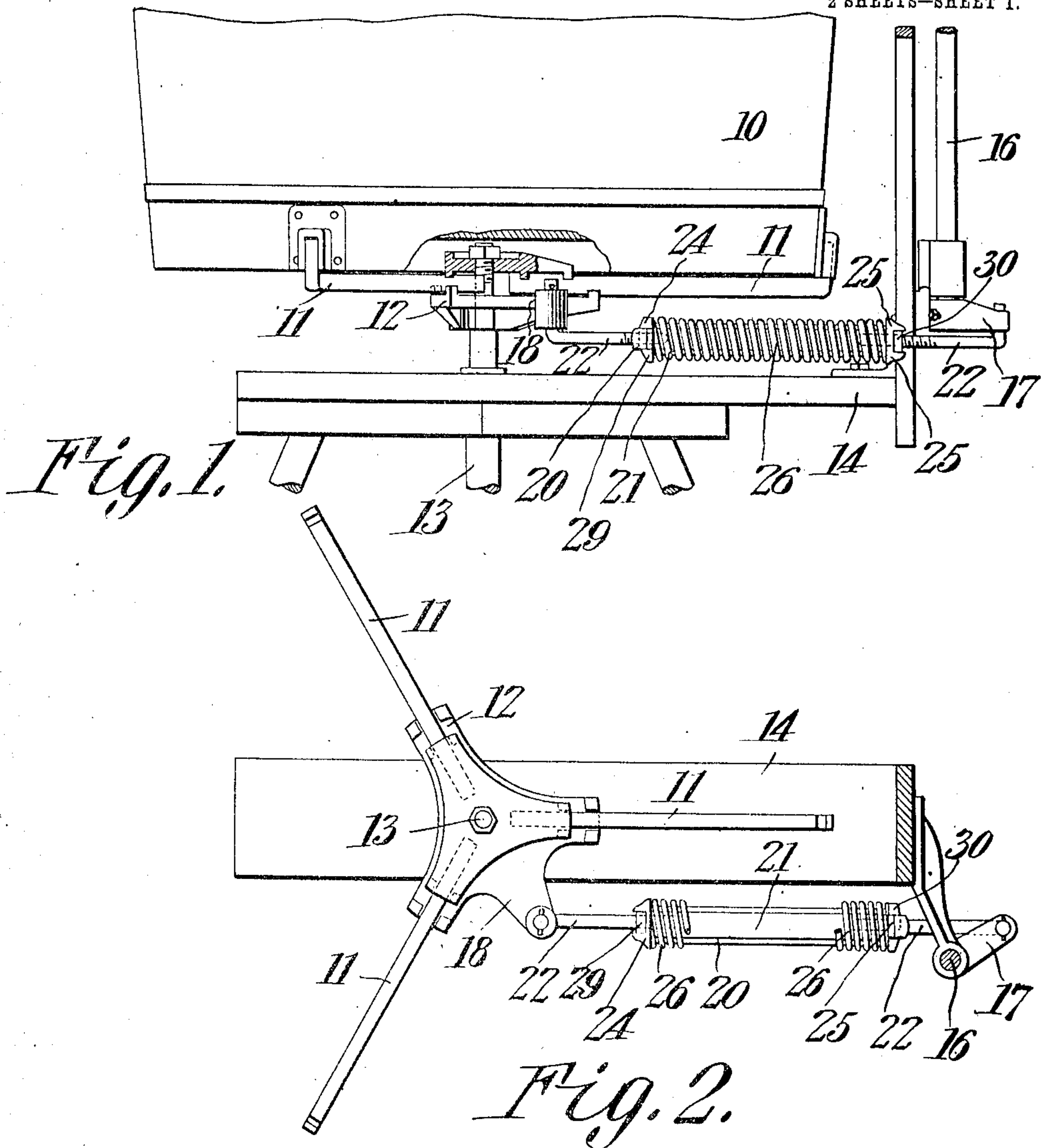


T. J. WINANS.
POWER TRANSMITTING DEVICE FOR WASHING MACHINES.
APPLICATION FILED MAR. 16, 1907.

912,927.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

E. H. [Signature]
J. E. [Signature]

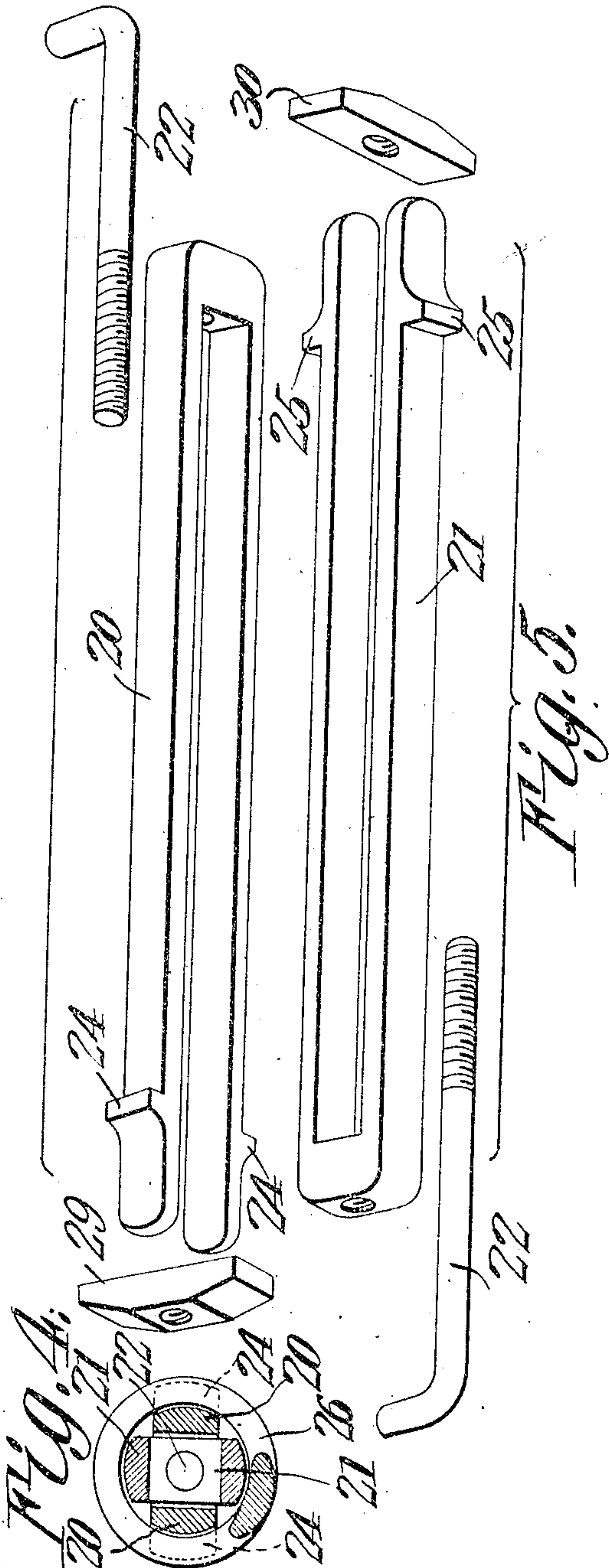
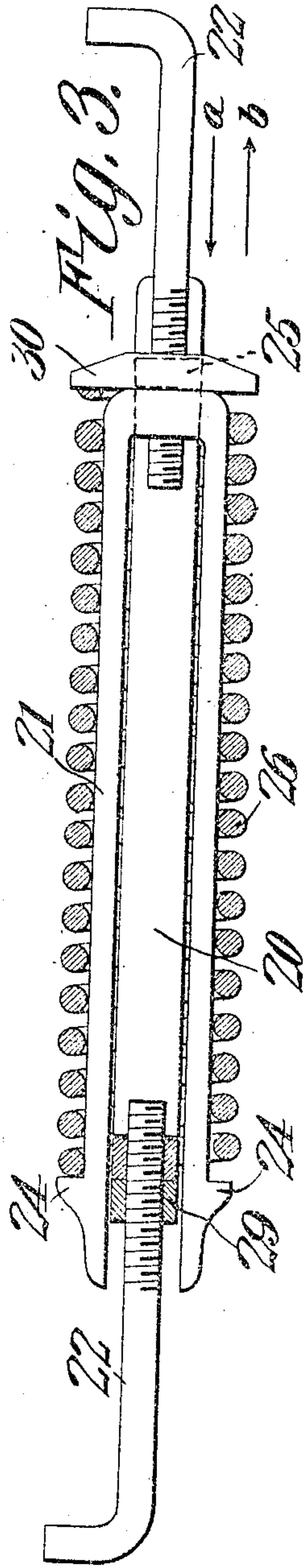
Thomas J. Winans,
INVENTOR

By *C. A. Snow & Co.*
ATTORNEYS

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WITNESSES:
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UNITED STATES PATENT OFFICE.

THOMAS J. WINANS, OF BINGHAMTON, NEW YORK, ASSIGNOR TO THE "1900" WASHER COMPANY, OF BINGHAMTON, NEW YORK.

POWER-TRANSMITTING DEVICE FOR WASHING-MACHINES.

No. 912,927.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed March 16, 1907. Serial No. 362,735.

To all whom it may concern:

Be it known that I, THOMAS J. WINANS, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented a new and useful Power-Transmitting Device for Washing-Machines, of which the following is a specification.

This invention relates to power-transmitting devices employed in the conversion of rotary into reciprocatory or oscillatory motion.

One of the principal objects of the invention is to provide a device of simple but effective construction for cushioning the movement of washing machines or other devices wherein the clothes container or one of the rubbing elements is mounted for oscillatory movement.

A further object of this invention is to provide a connecting rod of this character to permit the oscillatory member to cushion upon momentum absorbing springs, the yielding of which would depend upon the weight and velocity of said oscillatory member, but causing said connecting rod to shorten or lengthen without a prejudicial effect upon the efficiency of the rotary driving member, because there is no reversal of the stress on the spring in said connecting rod while doing so.

A still further object of the invention is to provide a novel form of cushioning connecting rod which may be readily adjusted for the purpose of increasing or decreasing the cushioning effects, or to compensate for fatigue of the cushioning spring or springs.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is an elevation, partly in section, of a portion of a washing machine provided with a connecting rod embodying the invention. Fig. 2 is a plan view of the same, the tub being removed. Fig. 3 is a sectional eleva-

tion of the connecting rod. Fig. 4 is a transverse sectional view of the same. Fig. 5 is a view showing the various parts of the rod detached.

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

Figs. 1 and 2 of the drawings show the application of the invention to a washing machine, wherein 10 designates the tub or clothes container, that is mounted on a spider 11, the latter including a number of arms which are carried by a frame 12 rigidly secured to a central supporting shaft 13, which is free to oscillate in suitable bearings formed in a frame 14. The tub or clothes container is arranged to swing in a horizontal plane, and if it contains a large quantity of clothes and a corresponding amount of water and detergent, there is likely to be considerable strain on the motor mechanism in reversing the direction of movement at the completion of each stroke.

In the present instance the apparatus is arranged to be operated through or from a vertically disposed shaft 16 which is connected to and may be driven from any suitable source of power, for instance, a small water motor. At the lower end of this shaft is a crank 17 which is connected to the frame 12 by the rod which forms the subject of the present invention, the frame 12 being provided with a laterally projecting lug 18 having an opening for the reception of the end of the rod. The rod is formed of a number of sections, the two principal parts of which comprise a pair of U shaped bars 20 and 21. These are of the same size and length and interfit, that is to say, the cross bar of each fits in the space between the two arms of the other, and the common plane of one set of arms is at a right angle to the similar plane of the other set of arms. The cross bar of each of these arms is provided with a threaded opening for the reception of a small rod 22, each rod having an upturned end portion, one to engage in the opening of the boss 18, and the other to engage a corresponding opening in the crank 17. Extending outward from the ends of the arms of bar 20 are lugs 24 and similar lugs 25 project from the arms of the other bar. These lugs form opposite end bearings for a helical compression spring 26, and the ends of said

spring bear also against small cross bars 29—30, one of which is carried by the small rod 22 of bar 20, and the other by the corresponding rod of the bar 21. As a result of this construction, any movement imparted from either end of the connecting rod as a whole will result in compression of the spring, whether that force be exerted in one direction or the other,—for instance, if in fig. 3 force be applied from the crank in the direction of the arrow *a*, the block 30 would act against the end of the spring and tend to press the same against the block 29 of the bar 20, so that if there is resistance to the movement, the spring will be compressed, and the shock will be gradually absorbed before the positive movement in the direction of the arrow *a* starts. If the force is applied in the direction of the arrow *b*, the lugs 24 will be moved against one end of the spring, and the lugs 25 will resist the movement until the shock is absorbed. In similar manner when the tub nears the limit of its movement in either direction, the spring will be compressed in one instance between the two blocks 30 29, and in the other between the two lugs 25—24 and in this manner the motion of the tub will be gradually arrested, and the power thus stored will be utilized as the spring naturally expands in the starting of the return movement, so that no shock or jar can occur, and the operation may be carried on noiselessly and without danger of breakage of the parts.

I claim:—

1. A yieldable pitman comprising a pair of interfitting U-shaped bars, the common plane of the two arms of one bar being at right angles to the similar plane of the arms of the other bar, the terminal of each bar being provided with outwardly projecting lugs and the bent portion of each bar being provided with blocks transversely thereof arranged to

extend beyond the sides thereof, and a spring mounted upon both bars and seated against said lugs and projections, whereby the spring is compressed when tensile or compressive stress is exerted on the ends of said pitman.

2. A yieldable pitman comprising a pair of interfitting U-shaped bars, the common plane of the two arms of one bar being at right angles to the similar plane of the other bar, the terminals of each bar being provided with outwardly projecting lugs, auxiliary blocks held at the bent portion of each bar to extend transversely thereacross and project therebeyond, and a spring mounted upon both bars and seated against said lugs and blocks whereby the spring is compressed when tensile or compressive stress is exerted on the ends of said pitman.

3. The combination in a washing machine, of an oscillatory member having an indeterminate arcuate movement, and a connecting rod for transmitting movement thereto, said rod including a pair of interfitting U shaped bars, the common plane of the two arms of one bar being at a right angle to the similar plane of the arms of the other bar, the terminals of each bar being provided with outwardly projecting lugs, auxiliary blocks arranged one at the end of each bar, threaded rods passing through the blocks and bars, and a spring mounted upon both bars and seated against said lugs and blocks, whereby said spring is compressed on pushing or pulling strain exerted on the rod from either end in either direction.

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

THOMAS J. WINANS.

Witnesses:

W. G. TROWBRIDGE,
HARRY L. BARKER.