

A. B. SNYDER.
SHINGLE PACKING REGISTER.
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908,162.

Patented Dec. 29, 1908.

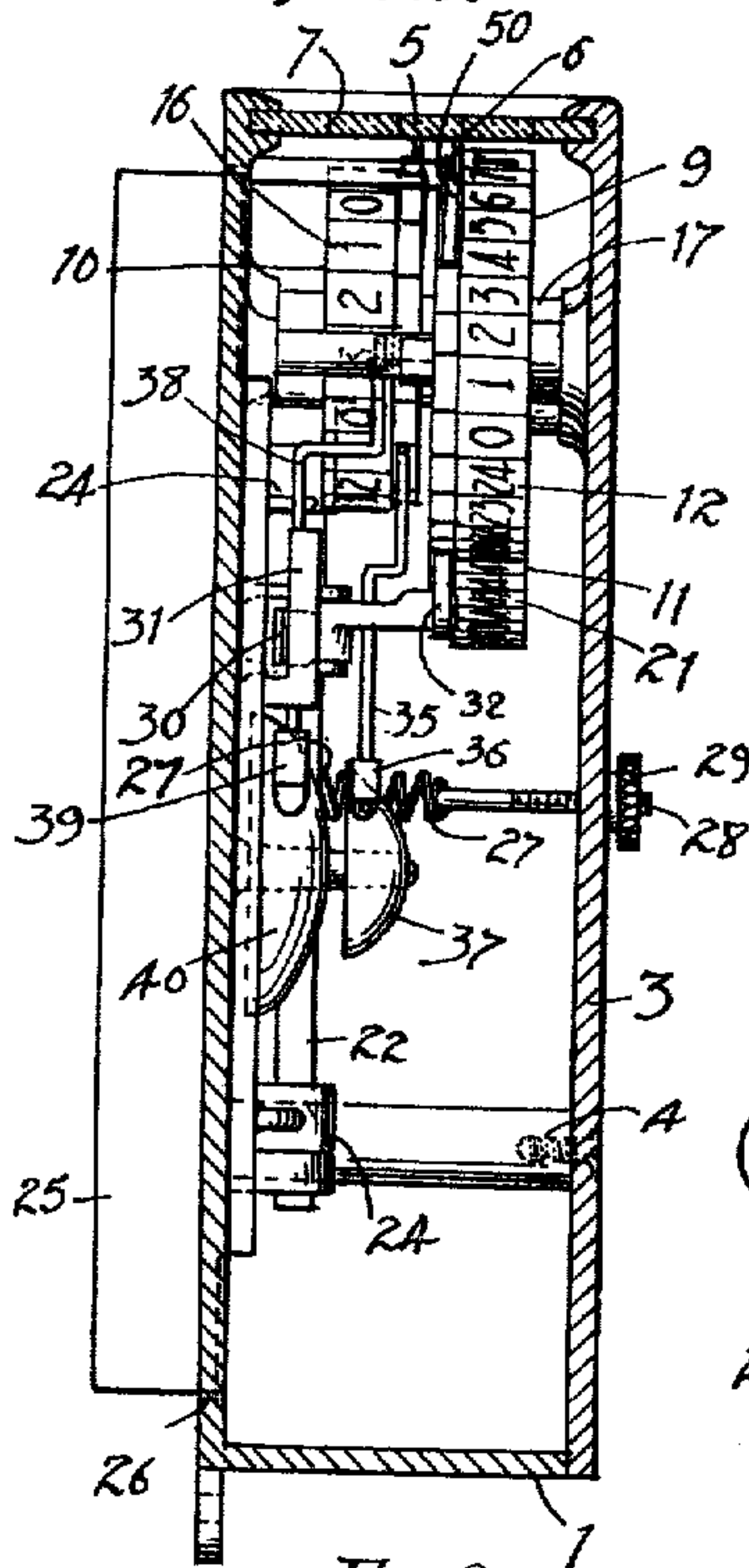


Fig. 2

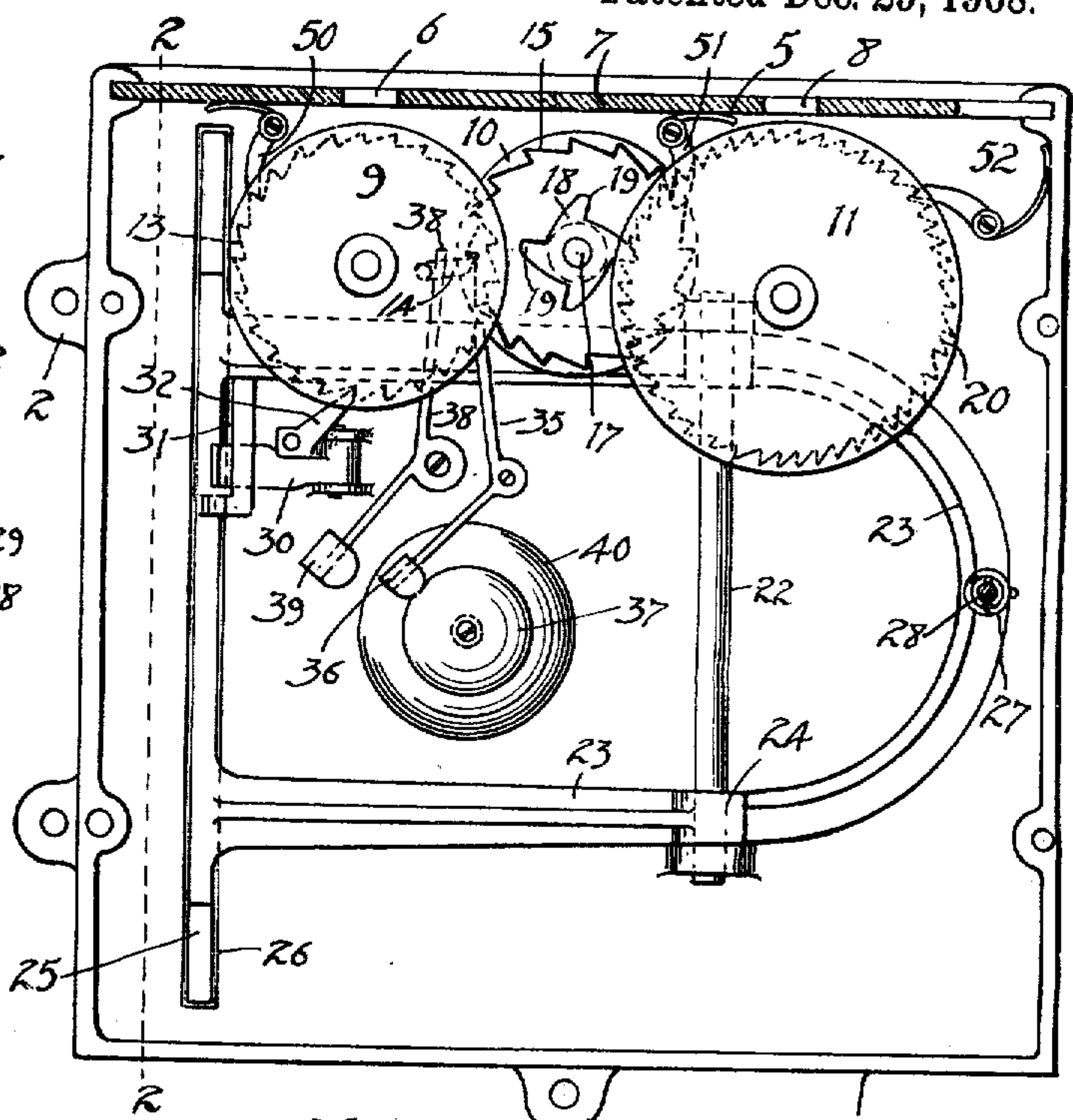


Fig. 1

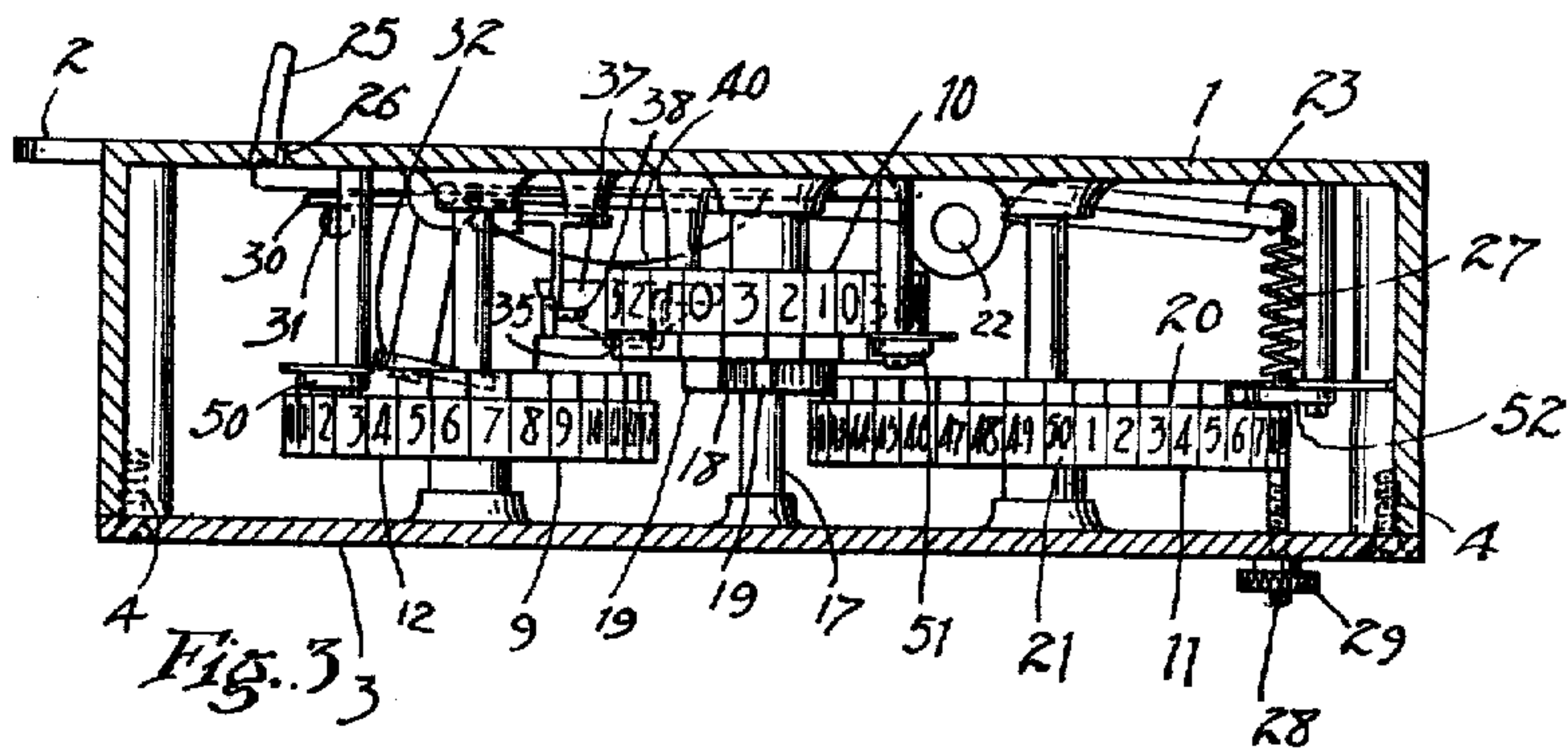


Fig. 3

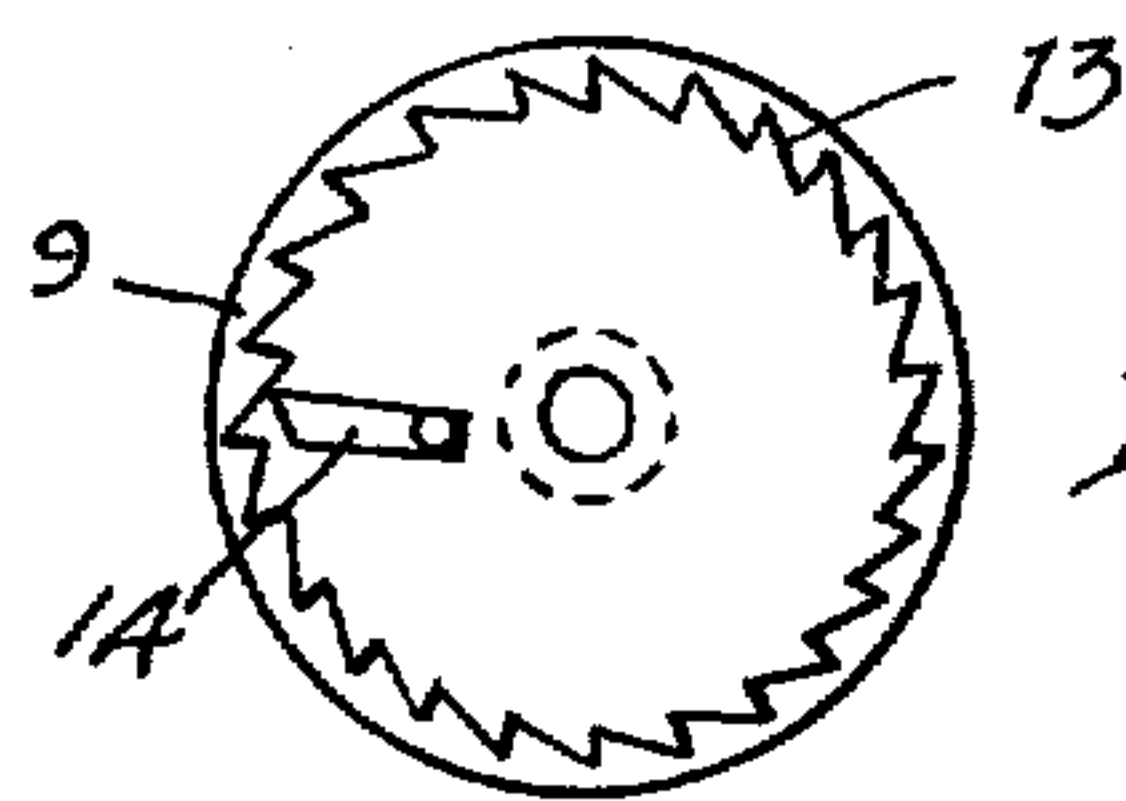


Fig. 4

WITNESSES:

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ATHERTON B. SNYDER, OF GRASS VALLEY, CALIFORNIA, ASSIGNOR OF ONE-FOURTH TO EDWARD A. WORK, ONE-FOURTH TO ADOLPH NAAKE, AND ONE-FOURTH TO FRANK A. NAAKE, ALL OF NEVADA CITY, CALIFORNIA.

SHINGLE-PACKING REGISTER.

No. 908,162.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed December 26, 1907. Serial No. 408,163.

To all whom it may concern:

Be it known that I, ATHERTON B. SNYDER, a citizen of the United States, residing at Grass Valley, in the county of Nevada and State of California, have invented new and useful Improvements in Shingle-Packing Registers, of which the following is a specification.

The object of the present invention is to provide a machine for registering the number of shingles and bundles of shingles packed by a shingle packer.

In the accompanying drawing, Figure 1 is a side view of the apparatus with the cover removed; Fig. 2 is a vertical section thereof on the line 2—2 of Fig. 1; Fig. 3 is a broken top plan view thereof; Fig. 4 is a side view of a register wheel.

Referring to the drawing, 1 indicates a box or casing adapted to be screwed through lugs 2 to the packing frame for packing shingles, and having a removable front side 3 secured on said box by screws 4. In the glass top 5 of the box are three holes 6, 7, 8, immediately over the tops of three numeral wheels 9, 10, 11, so that each hole directly shows one numeral on each wheel. The wheel 9 has in order the numbers 0, 1, 2, and so on, up to 24, marked in its periphery, as shown at 12, and has twenty-five ratchet teeth 13. It also carries a tooth 14 which is adapted to engage one of sixteen ratchet teeth 15 of the wheel 10 which has marked on its periphery, as shown at 16, sixteen numerals arranged in four groups, each group consisting of the numerals 1, 2, 3, 0, said group being thus repeated three times in the same order. On the shaft 17 of the wheel 10 is a pinion 18 having four teeth 19 adapted to engage teeth 20, of the wheel 11, of which teeth 20 there are fifty in number, said wheel having marked on its periphery as shown at 21 the fifty numerals from 1 to 50.

Pivottally mounted on a vertical shaft 22 is a U-shaped lever 23 hinged at 24 and having at its end a push board or lip 25 which extends out through a vertical opening 26 at the rear side of the box, and is slightly higher than the side of the bundle of shingles. This lever is so hung on its hinges that it is easily moved inwards by a pressure on said lip 25 at any point thereof. Said inward movement is resisted by a coiled spring 27 attached to the other end of said lever and to

the end of a rod 28 passing to the front of the box and adjusted by a screw 29. Mounted upon the inner side of the rear wall of the box is a bell crank lever 30, one arm of which passes through a loop 31 carried by the lever, while the other arm carries a pawl 32 which can engage the ratchet teeth 13 of the wheel 9. The result is that when said push board or lip is moved inwards it advances said ratchet wheel 9 one twenty-fifth of a revolution. Each time that it does so, a ratchet tooth 13 first raises, and then lets drop, an arm 35 of a hammer 36 which strikes a gong 37. When the ratchet wheel 9 has made a complete revolution, its tooth 14 engages a ratchet tooth 15 of the wheel 10 and advances it through one-sixteenth of a revolution. This ratchet wheel in the same way as the wheel 9 lifts an arm 38 of a hammer 39, which, upon being dropped, strikes a gong 40. The wheel 11 having fifty teeth, which engage the four teeth on the shaft of the wheel 10, makes one revolution for each twelve and one-half revolutions of said shaft, and since said shaft makes one revolution for sixteen revolutions of the wheel 9, the wheel 11 makes one revolution for two hundred revolutions of the wheel 9. Said wheel 11 therefore counts up to 5,000. Suitable dogs 50, 51, 52, are provided to prevent the backward movement of the wheels.

The apparatus is used in the following manner. The casing 1 being attached to the frame for packing shingles, as already explained, so that the lip 25 stands vertical, said lip being not less in length than the height of a bundle of shingles, the packer lays the first shingle of a layer of shingles at one corner in the bottom of the frame, and, in doing so, presses it against the bottom of the lip 25, and thereby operates the bell crank lever 30 and actuates the mechanism. The register then registers "1". But as soon as the packer lets go of the shingle, the lip 25 is actuated by the spring 27 to push the shingle back into place. The packer then fills up the first layer or row with shingles, there being generally 10 shingles in a layer. On commencing the second layer, he again places a shingle in the corner, and the register registers "2". This operation is continued until the large bell rings, which notifies him that he has laid 25 layers, or 1 bundle. The first wheel of the register will now be at

zero, while the second wheel will show one bundle. Having secured together and removed the bundle of shingles, he commences to pack another bundle, and, when four bundles are packed, the first and second wheels will be at zero, while the third wheel will register 1, then indicating 1,000 shingles. If the shingles are larger or smaller than usual, so also the number of shingles in a layer is smaller or larger than usual, so that the bundle will in all cases, when spread out, cover an area equal to 250 shingles.

An important feature of the invention consists in the arrangement whereby the register is actuated by means of any one of the series of shingles located at different levels, as the bundle is progressively packed. By reason of the fact that the lever 23 is mounted on hinges 24, spaced far apart, and that the spring 27 acts at the center of the U-shaped portion of said lever, it follows that the pressure of said spring tending to return the lip and shingle to their normal positions, acts uniformly for shingles operating on the lever at all levels, so that, as the bundle is progressively packed, the first shingle of each layer is always uniformly returned to its normal position by the lip 25.

The arrangement for registering by means of the movement of the lip 25 is also believed to be a novel invention. Said lip only moves through a distance of about $\frac{1}{8}$ of an inch. Therefore to obtain an accurate register from such a small movement, the motion derived from that of the lip must be increased. This is done by means of the bell crank lever 30,

which has a short arm acted upon by the lever 23 and a long arm 32 engaging the ratchet wheel.

I claim:—

1. In an apparatus of the character described, the combination of a series of numeral wheels, means for intermittently advancing them one from the other in succession, and means for advancing the first of said numeral wheels, comprising a vertical push board or lip, a U-shaped lever attached at its ends thereto and a spring attached to the middle of the U-shaped portion of said lever for controlling the movement of said push board, substantially as described.

2. In an apparatus of the character described, the combination of a series of numeral wheels, means for intermittently advancing them one from the other in succession, and means for advancing the first of said numeral wheels, comprising a vertical push board or lip, a lever attached thereto having a loop, a bell crank lever having a short arm engaging said loop, and a long arm, a connection between said long arm and the first of the series of numeral wheels, and a spring for controlling the movement of said push board, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ATHERTON B. SNYDER.

Witnesses:

JOHN MULROY,
W. G. LORD.

