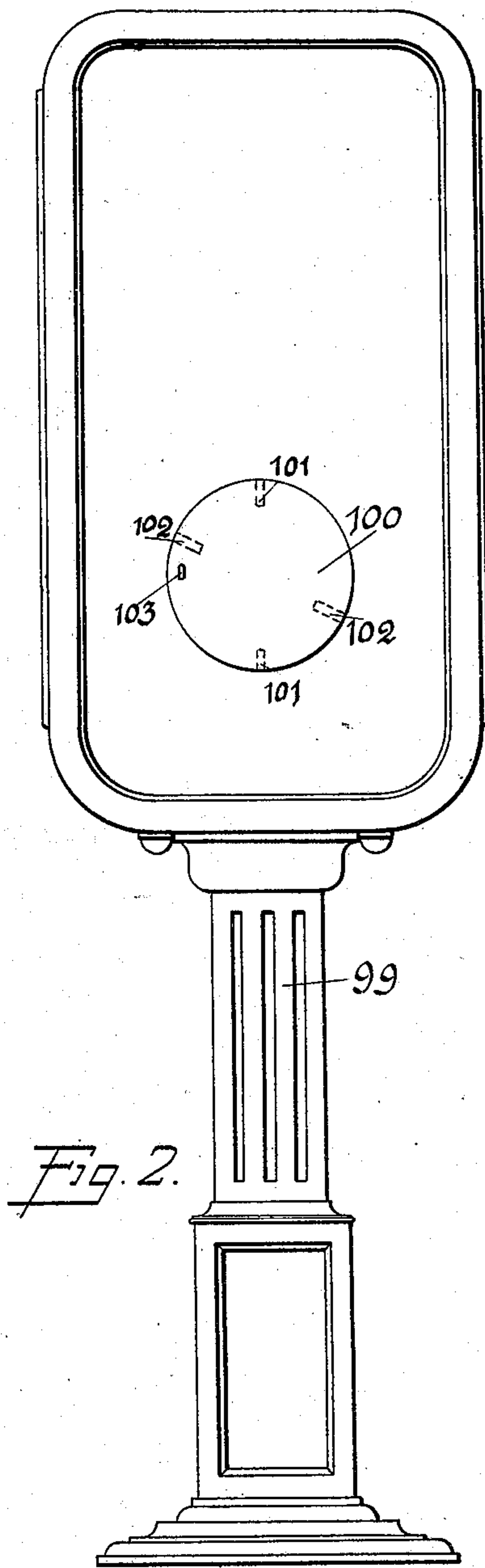
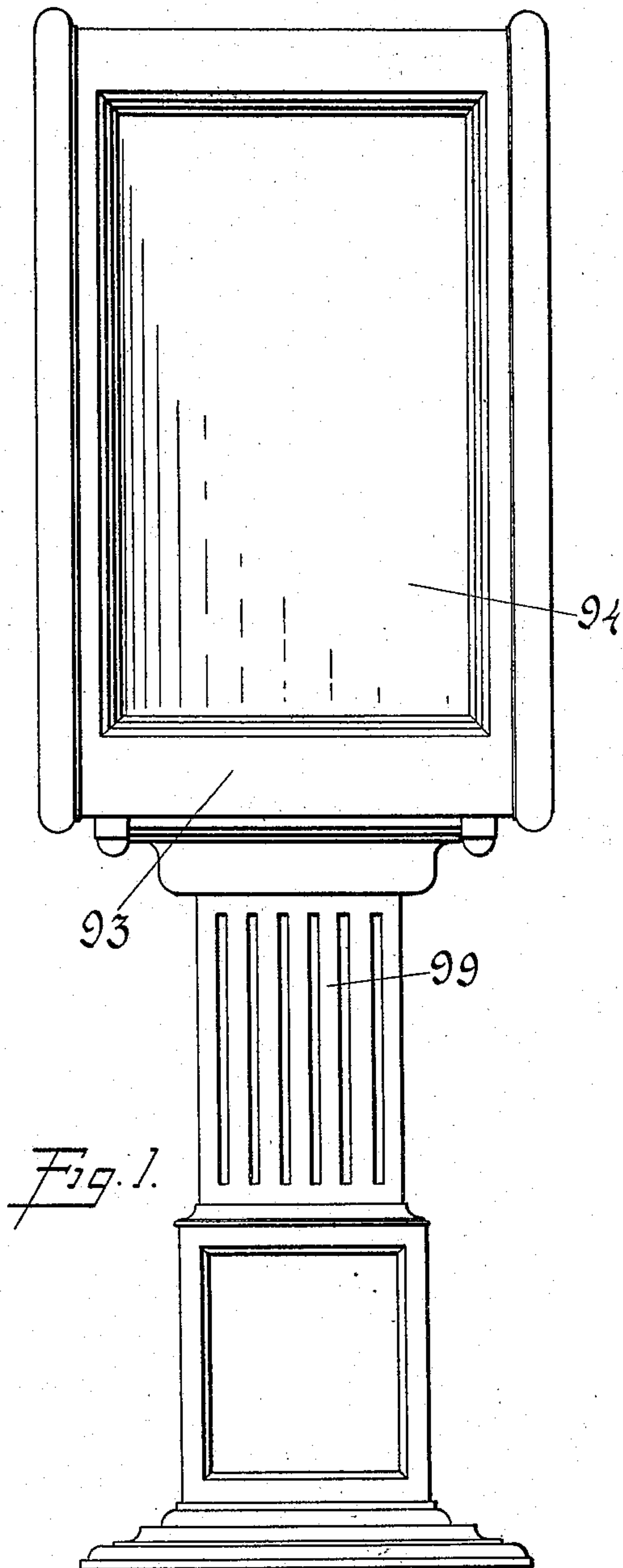


924,111.

G. SIFF.
ADVERTISING APPLIANCE.
APPLICATION FILED MAY 5, 1908.

Patented June 8, 1909.
4 SHEETS—SHEET 1.



WITNESSES
Waldo M. Chapin
Mary S. Hardy.

INVENTOR
George Siff.
BY
Rosenbaum & Stearns
ATTORNEYS

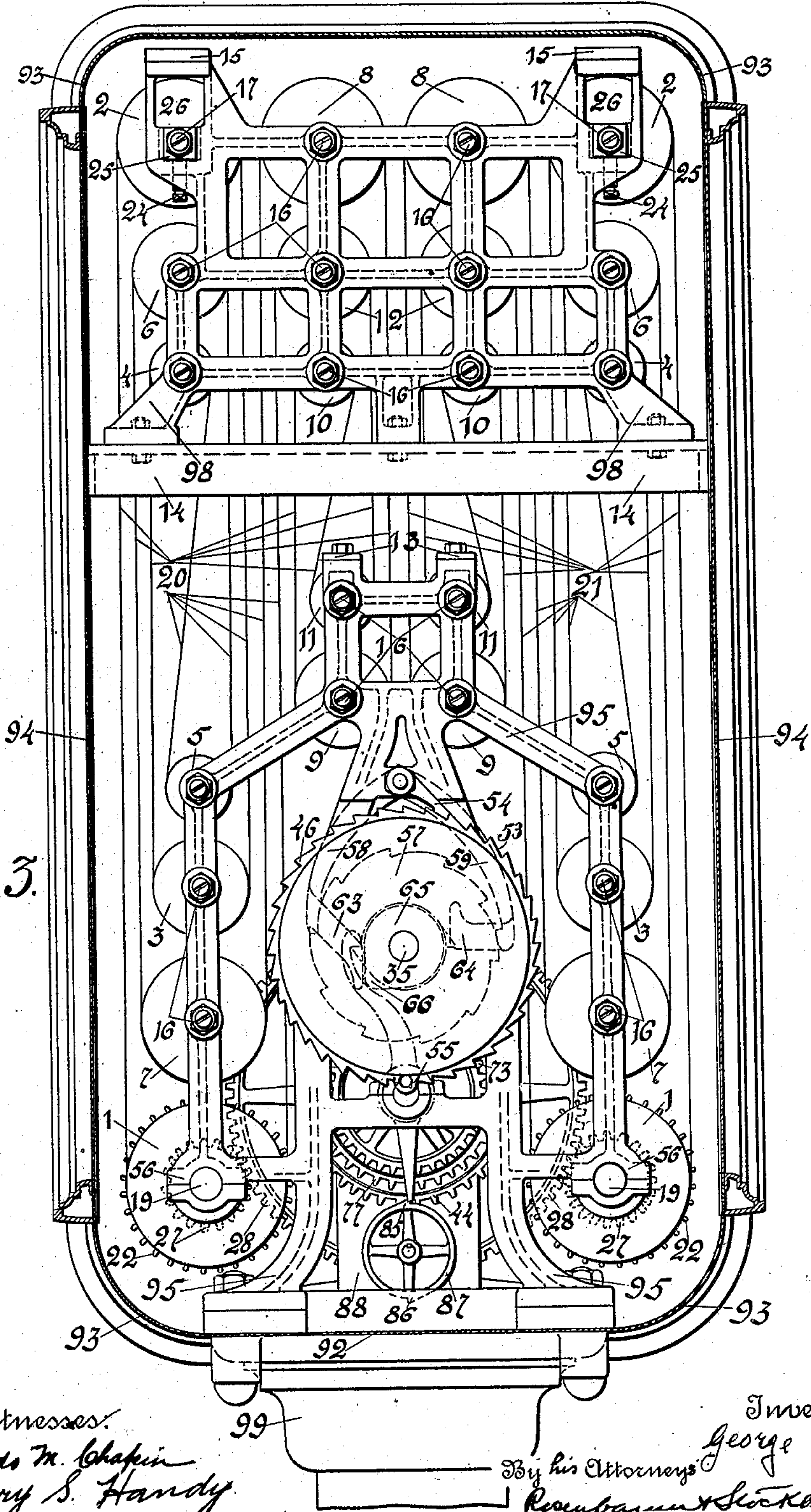
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4 SHEETS—SHEET 2.

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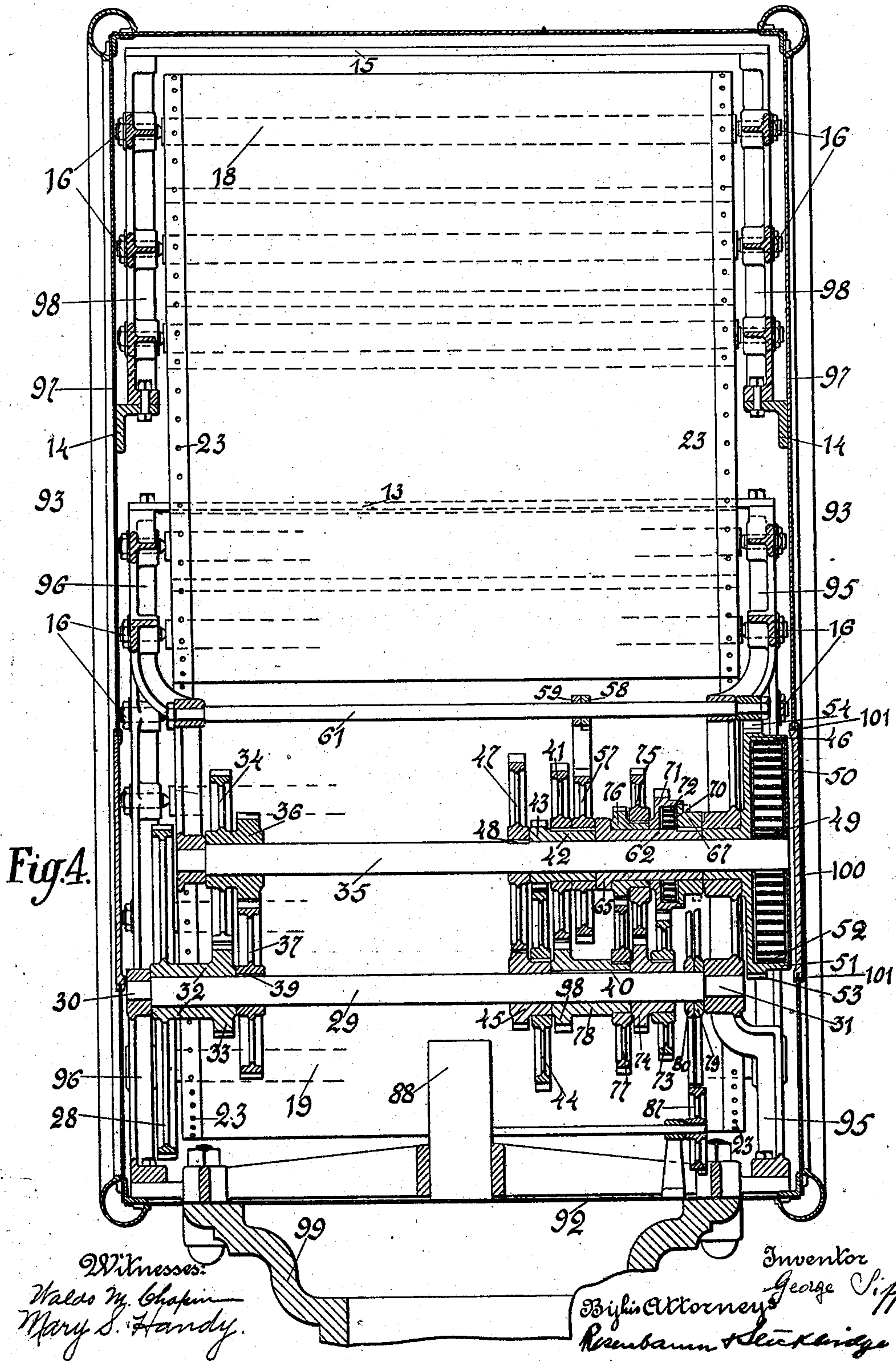
Fig. 3.



Witnesses:
W. M. Chapin
Mary S. Handy

Inventor
George Siff
By his Attorneys
Rosenbaum & Stockbridge

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G. SIFF.
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4 SHEETS—SHEET 4.

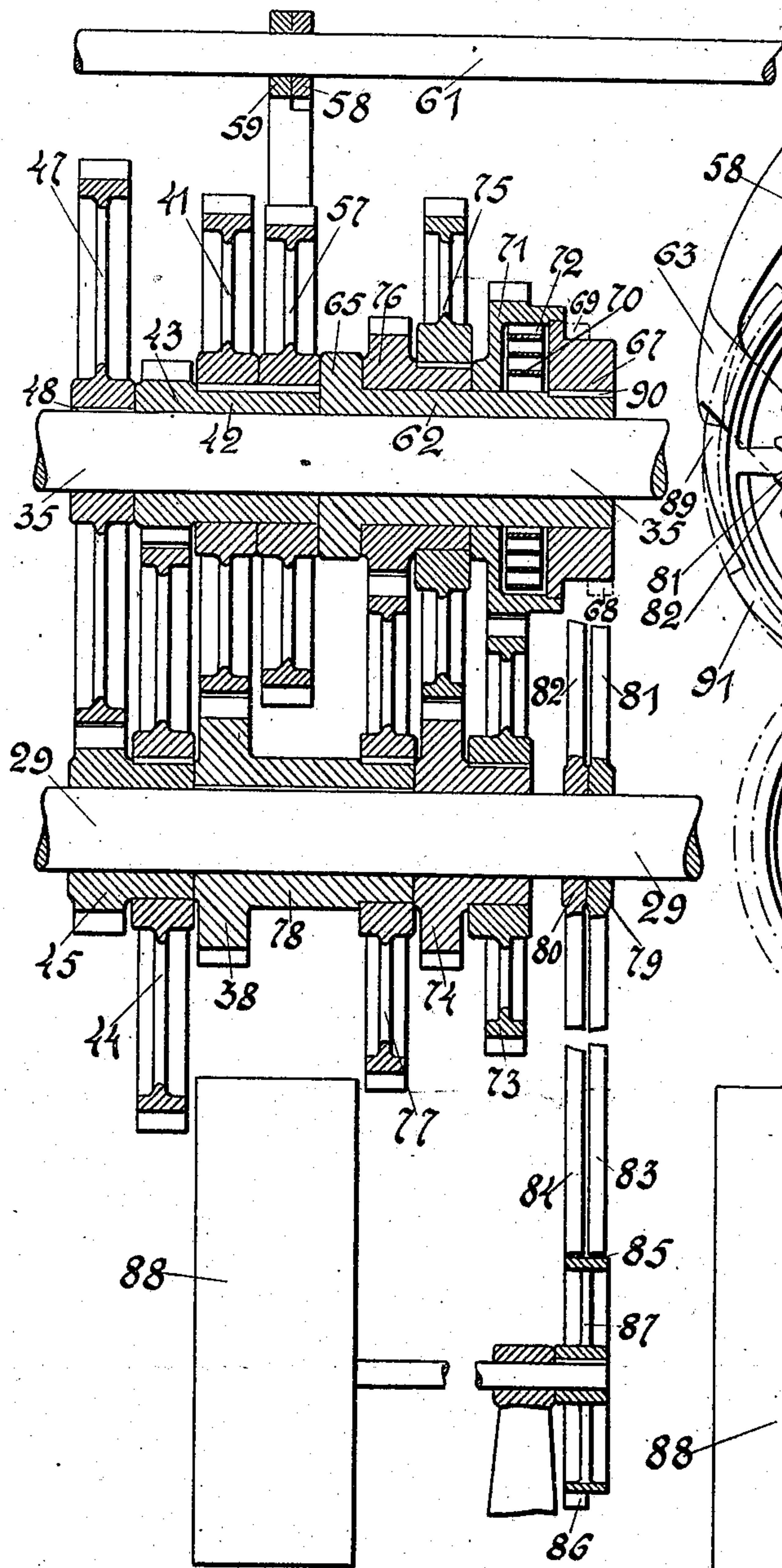


Fig. 5

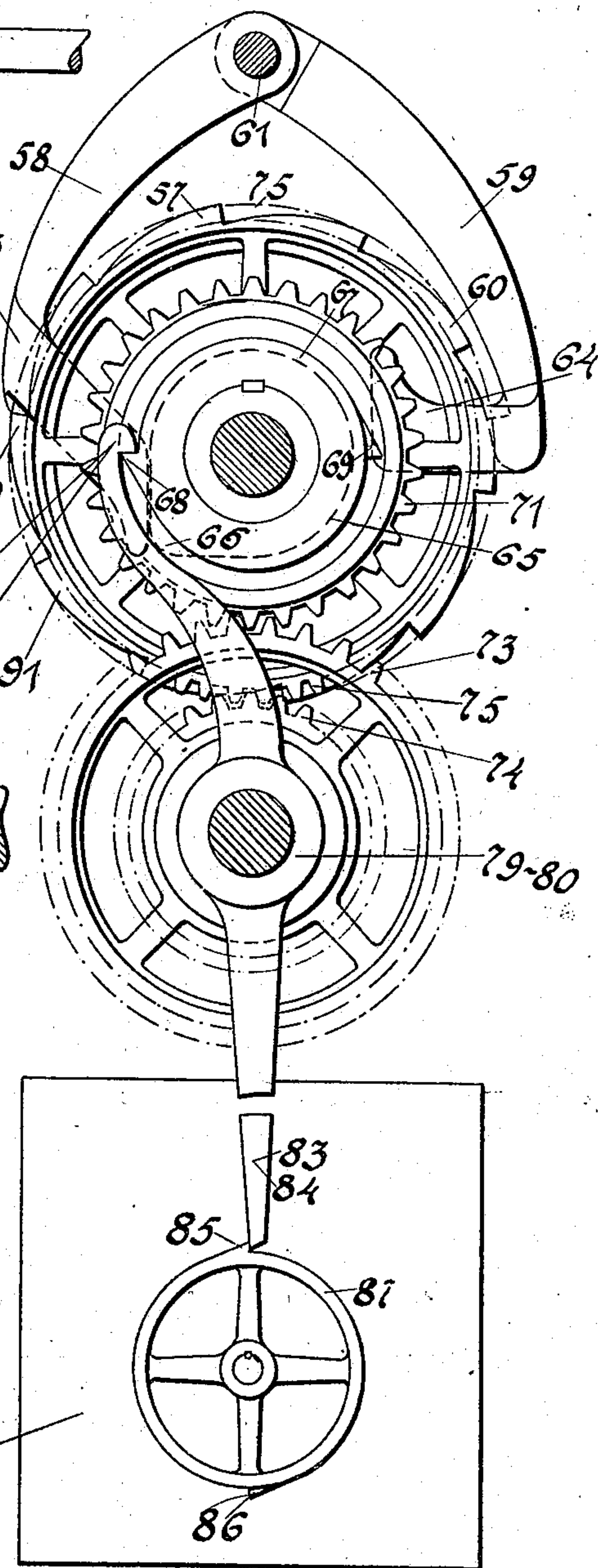


Fig. 6

Witnesses:
Malcolm M. Chapman
Mary S. Handy

Inventor
George Siff
By his Attorneys
Rosenbaum & Lockenidge

UNITED STATES PATENT OFFICE.

GEORGE SIFF, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO DAVID BEAR, OF ELIZABETH-PORT, NEW JERSEY.

ADVERTISING APPLIANCE.

No. 924,111.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed May 5, 1908. Serial No. 430,996.

To all whom it may concern:

Be it known that I, GEORGE SIFF, a subject of the Emperor of Russia, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Advertising Appliances, of which the following is a full, clear, and exact description.

My invention relates to an advertising apparatus for use in public places and designed to exhibit a continuously changing series of advertising posters or inscriptions.

More specifically, the invention consists in a means for supporting and moving a continuous web of fabric or material on which the posters or inscriptions are contained, in such a way that such inscriptions are successively presented for a certain interval of time at a window or windows in the casing of the apparatus.

The machine includes a clock or watch mechanism together with a form of escapement mechanism which permits the web to move through a predetermined distance at predetermined intervals under the impulse of a power spring or other driving means. I have devised a form of escapement which does not impose any heavy amount of work on the clock or watch mechanism, but which acts with great positiveness to release the power spring for the web, notwithstanding the power and force of such spring.

With these and other objects in view, my invention consists in the features of construction and combination as hereinafter set forth and claimed.

In the drawings: Figure 1 is a front elevation of an advertising apparatus embodying the principles of my invention. Fig. 2 is a side view of the same. Fig. 3 is a vertical sectional view showing a web and its driving mechanism. Fig. 4 is a section on a plane at right-angles to that of Fig. 3. Fig. 5 is a detail sectional view of the driving gear train and the escapement mechanism. Fig. 6 is a view looking toward the left in Fig. 5.

Referring to the drawings, in which like parts are designated by the same reference sign, I will first consider the web and the character of its supporting and guiding means by which a comparatively long endless web may be employed and stored in a compact compass. I provide two separate endless webs 20 and 21 which are guided over a similar series of rolls on both sides

of the machine. Each web passes over the initial or driving drum 1 and from thence upward over the roll 2 and downward to the roll 3, then over the rolls 4, 5, 6, and 7, after which the web passes upward over the roll 8 and through the series 9, 10, 11 and 12, back to the driving drum 1. For the purpose of giving a positive driving engagement for the web, I perforate the latter with a series of holes 23 along its side edges, which mesh with the teeth or pins 22 of the drums 1.

Any desired supporting means may be employed for the various drums or rolls for the web. I have shown frame members 14 which support the castings 98, each having a plurality of pivot pins 16 at the points of the desired axes of the upper rolls. Another frame 95, including a similar series of pivot pins 16, supports the lower rolls. This lower frame also has journal bearings 56 for the driving drums 1. As a take-up means for adjusting the tension of the web or taking up any looseness therein, I provide adjustable bearings for the rolls 2 and comprising movable blocks 25 which can be adjusted upward in recesses 26 in the frame 98 by means of the screws 24. These blocks carry the pivot pins 17 for the rolls 2.

15 designates bars connecting the castings 98 and holding them together in rigid relation.

The means for driving the drums 1 will best be understood from a consideration of Fig. 4. There is journaled in the frame 95 a shaft 29 reduced at its bearing portions 30 and 31 so as to be held against longitudinal displacement. This shaft has a loose sleeve 32 thereon, which carries a gear 28 meshing with the teeth of pinions 27 fixed to the drums 1 and constituting a driving means therefor. The sleeve 32 also has a pinion 33 driven through a gear train 34, 36 and 37, the gear 37 being keyed to the shaft 29. In this way it is evident that, when the shaft 29 is rotated, the sleeve 32 and the drums 1 are driven at a multiplied speed ratio.

The shaft 29 has keyed thereto a pair of gears 77 and 38 forming part of a single collar 78 keyed to the shaft at 40. The gear 38 is driven through a multiplying gear train from a power spring 50, under certain circumstances. This power spring is keyed to a shaft 35 at 49, the shaft 35 being incidentally made use of as a support for the gears 34, 36 already mentioned. I make the

power spring 50 anchored at its outer end within a revoluble housing 46 which is normally held fixed during the operation of the machine by a pawl 54 engaging circumferential ratchet teeth 53 on this housing. As will
 5 be later described, the power spring is initially wound up or tensioned by rotating the housing 51 which is thereupon locked against return movement by the pawl 54. The power
 10 of the spring 50 is transmitted through shaft 35 to the gear 47 keyed thereon at 48, which drives the shaft 29 through the following gear train: gears 47, 45, 44, 43, 41, 38. The
 15 gears 44 and 45 are loosely sleeved on shaft 29, and the gears 41 and 43 form part of a loose sleeve 32 on shaft 35. The sleeve 42 also carries a ratchet wheel 57 (see Figs. 3 and 6.) There is also provided on the shaft
 20 35 another loose sleeve 62 having a cam 65 and an escapement wheel 67 (see Fig. 6.) This sleeve 62 also includes in its organization a spring 70 which I shall term a "secondary spring." In the normal condition of the apparatus the spring 70 is under tension
 25 and acts to impel the escapement wheel 67 in a right-handed direction in Fig. 6. This escapement wheel is, however, held against movement by a pair of levers 79 and 80 with hooked extremities 81 and 82 which are
 30 capable of respectively falling into the path of separate lugs 68 and 69 on the escapement wheel. Each of the levers 79 and 80 has a downwardly projecting extremity respectively extending into the path of lugs
 35 85 and 86 on the wheel 87. This latter wheel is clock driven by the time mechanism 88 and may make a complete revolution in a minute of time or other period, as desired. At each half revolution one of the lugs 85
 40 or 86 displaces its corresponding lever 83 or 84 and removes the hooked extremity 81 or 82 thereof out of the path of lug 68 or 69 on the escapement wheel 67, permitting a half revolution of the latter under the influence
 45 of the secondary spring 70. This rotation of the escapement wheel 67 is accompanied by a corresponding movement of the cam 65 forming part of the same revoluble sleeve, and this cam displaces certain holding dogs
 50 58 and 59, particularly shown in Fig. 6.

The holding dogs 58 and 59 directly engage the teeth of a ratchet wheel 57, said dogs loosely depending for this purpose
 55 from a rod 61 extending transversely between the frame members 95. These dogs normally remain in holding relation to the escapement wheel 57, but are capable of being displaced from such holding relation
 60 by the integral protuberances or inward extensions 63 and 64 which lie alongside the ratchet wheel 57 in the path of the cam 65. As the cam 65 makes its movement through half a revolution in the manner already described, the holding dogs 58 and 59 are
 65 selectively displaced so as to release the ratchet

wheel 57 and permit the latter to make a movement equal to half the space of a tooth, assuming that this ratchet wheel is under tension to move right-handedly in Fig. 6. This ratchet wheel is so impelled by being
 70 directly keyed to the sleeve 42, already referred to, which forms part of the gear train by which the shaft 29 is driven from the main spring 50, as already described. Accordingly this gear train is normally locked
 75 against movement by the dogs 58 and 59, but is permitted to rotate and drive the webs when either of the dogs 58 or 59 is released by the engagement of the cam 65.

I provide means for restoring the tension
 80 of the secondary spring 70 after each actuation in the above manner. For this purpose the outer extremity of this spring 70 is fixed to a housing 71 loosely sleeved on the sleeve 62 and driven through a multiplying gear
 85 train 73, 74, 75, 76, 77, from the sleeve 78 which is keyed to the shaft 29. Accordingly, whenever the shaft 29 rotates, as already described, the housing 71 of secondary spring 70 is rotated through a sufficient distance to
 90 entirely restore the tension of the spring 70. The gears 73 and 74 form part of a sleeve loose on the shaft 29, and the gears 75 and 76 form part of a sleeve loose on the sleeve 62. This is merely a convenient means of
 95 supporting these gears.

The apparatus is conveniently housed in a casing 93 supported on a post 99 and having windows 94. At its lower side, the casing
 93 has a bottom wall or partition 92 separating the cavity of its interior from that of
 100 the supporting post. At one or both sides of the casing there may be provided a removable door 100 which can be taken off by aligning the notches 101 with corresponding
 105 lugs 102 of the casing.

103 designates a key-hole in the cover, by which the latter can be locked against rotation and prevented from removal. When
 110 this cover is taken off the power spring 50 is exposed and can be wound up by rotating the housing 46 in any desired manner.

The use and operation are as follows: The power spring 50 being wound up, and a web
 115 provided with the proper advertising inscriptions, it is merely necessary to start the time mechanism 88 in operation, which causes a slow isochronous rotation of the wheel 87. As the latter rotates it alternately
 120 displaces the levers 79 and 80 at periodic intervals, and these in turn release the escapement wheel 67 to make successive movements through half a revolution. These latter movements act through the cam 65 to alternately displace the dogs 58 and 59, and
 125 the displacement of these dogs releases the ratchet wheel 57 to make a movement through the space of half a tooth. As this ratchet wheel forms part of the direct gear train from the main driving spring 50 to the web
 130

driving drums 1, the latter are permitted to rotate and displace the web through a predetermined distance every time a dog 58 or 59 is acted upon. The movement of the driving gear train referred to always acts to tension the secondary spring 70 which is accordingly in condition to drive the escapement wheel 67 for the next succeeding operation. In this way the web is continuously operated by an intermittent step-by-step movement as long as the power spring 50 remains tensioned or the clock mechanism 88 remains in operation. The multiplying value of the various gear trains is such that the web moves through a distance at each actuation requisite to position a new advertising inscription or poster in front of the window 94. The webs and other parts being in duplicate on opposite sides of the machine, it is evident that the advertising inscriptions on both windows 94 are simultaneously changed in a proper and regular sequence, as is required.

What I claim is:

1. In a machine of the class described, an endless web, a driving roll therefor, a spring drum, a gear train for driving said roll from said spring drum, a secondary spring, an escapement mechanism actuated by said secondary spring for releasing said gear train to drive said web, and means whereby said secondary spring is automatically maintained tensioned by said spring drum.

2. In a machine of the class described, an endless web, a power spring arranged to drive the same, a secondary spring, an escapement wheel connected thereto, escapement devices acting on said wheel, and dogs

for releasing said power spring and permitting the same to drive the web.

3. In a machine of the class described, a driving spring, an endless web, a gear train connecting said spring and web, a secondary spring, an escapement wheel driven thereby, time mechanism for intermittently releasing said escapement wheel, and means actuated by the movement of said escapement wheel for releasing said gear train and permitting a movement of the web.

4. In a machine of the class described, an endless web, a power spring, a gear train for driving said web from said spring, a secondary spring, a cam having an escapement wheel rotatively impelled by said secondary spring, time mechanism for intermittently releasing said escapement wheel, and means displaced by said cam for releasing said gear train to drive the web.

5. In a machine of the class described, an endless web, means normally tensioned to drive the same, a spring-impelled escapement wheel having a pair of lugs, a pair of levers respectively adapted to engage said lugs, time mechanism including an isochronously-moving wheel having a pair of lugs adapted to intermittently displace said levers alternately, and means actuated by said escapement wheel for permitting the movement of the driving means.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

GEORGE SIFF.

Witnesses:

WALDO M. CHAPIN,
MARY S. HANDY.