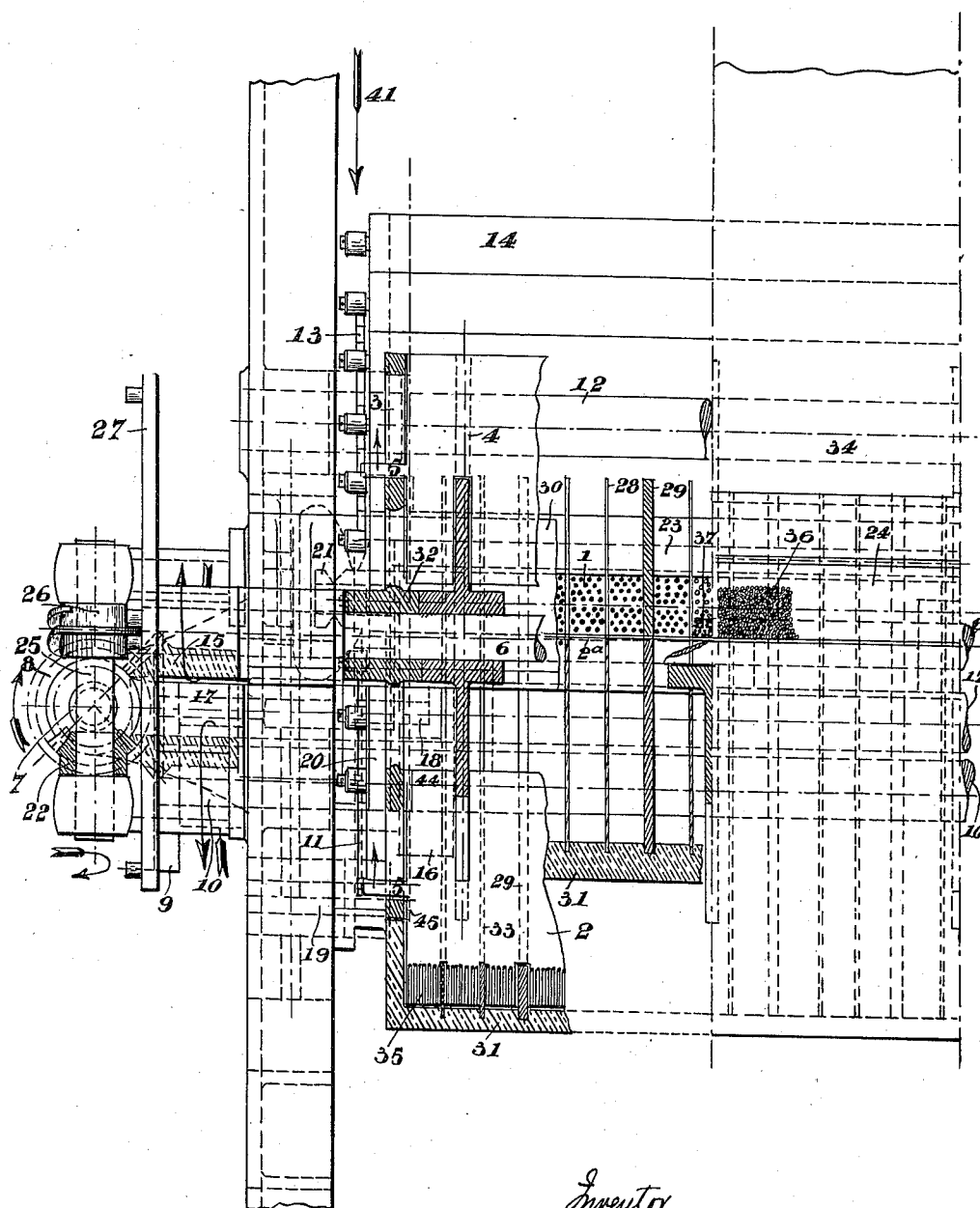


MACHINE FOR MEASURING OFF AND PACKING MATCHES IN BOXES, &c.

Patented June 4, 1912.

2 SHEETS--SHEET 1.

Fig. 1.



Witnesses:-
Ethel Daniels
Robert D. Huleizer.

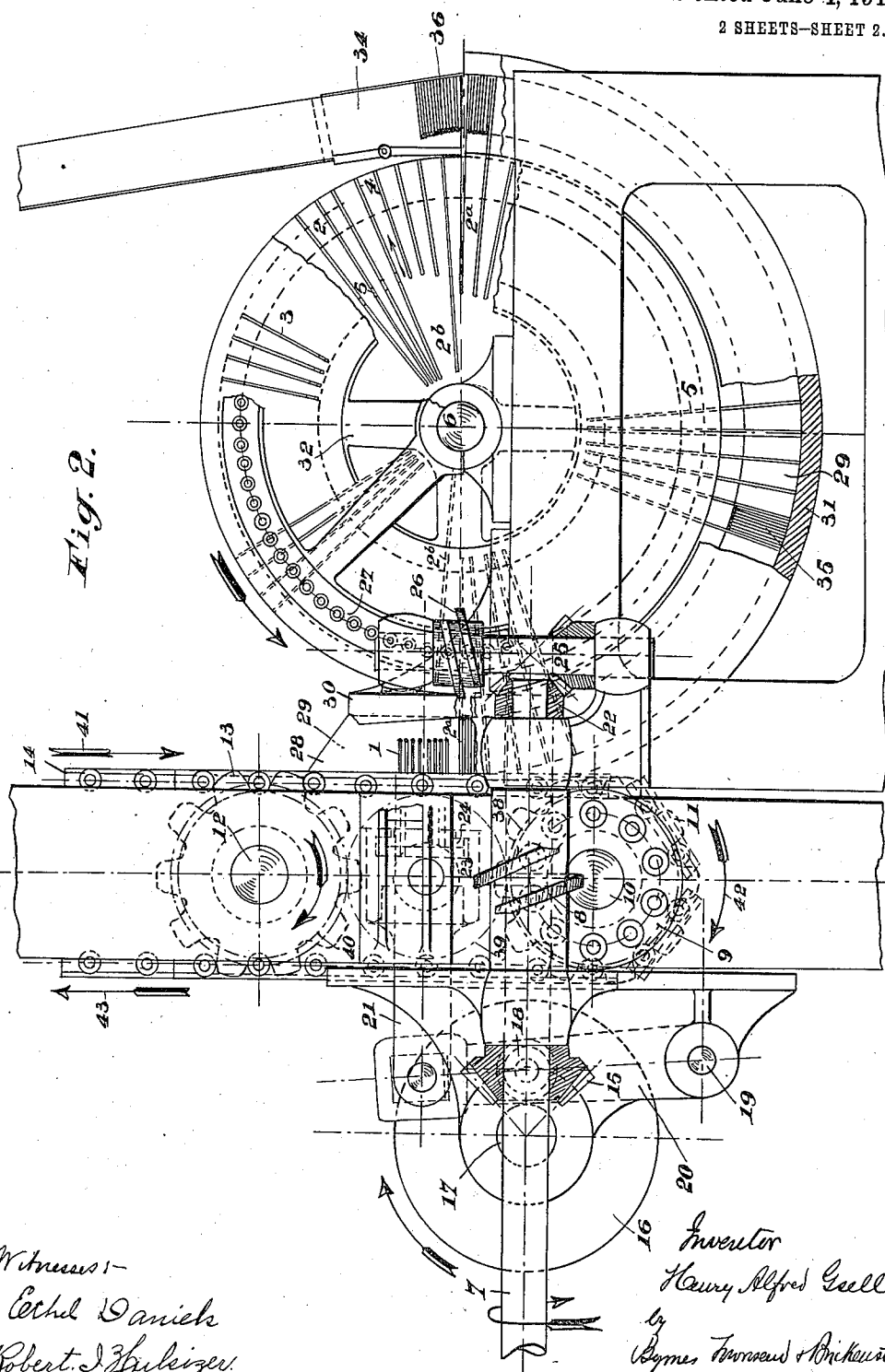
Inventor
Henry Alfred Gell
by Pyrus Townsend & Pinckney
Attorneys

H. A. GSELL.
MACHINE FOR MEASURING OFF AND PACKING MATCHES IN BOXES, &c.
APPLICATION FILED FEB. 27, 1912.

1,028,349.

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

HENRY ALFRED GSELL, OF PARIS, FRANCE.

MACHINE FOR MEASURING OFF AND PACKING MATCHES IN BOXES, &c.

1,028,349.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed February 27, 1912. Serial No. 680,173.

To all whom it may concern:

Be it known that I, HENRY ALFRED GSELL, a citizen of the Swiss Confederation, residing at Paris, France, have invented new and useful Improvements in Machines for Measuring Off and Packing Matches in Boxes, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same.

My present invention relates to machines for measuring off and packing matches in boxes or the like.

The object of the invention is to provide a machine of this class, wherein a drum or other suitable receiver is arranged in front of and below the perforated bars, from which the matches are discharged, said drum having a plurality of radial compartments, the side-walls of which are formed of movable slides and into which one or more rows of matches are discharged.

Another object of my invention is to provide means whereby a vibrating movement is produced during the rotation of the drum for the purpose of causing the matches contained in the radial compartments to be placed parallel to each other, so that the matches may be brought at any place into the usual magazine or directly packed into boxes.

Another object of my invention is to provide a machine, wherein the compartments in which the matches are measured off are formed in a vertical chain, moved parallel to the match-bars from which the matches are pushed out.

With these and other objects in view, my invention consists of the construction, arrangement and combination of parts, fully described hereinafter and specifically pointed out in the appended claims.

In the accompanying drawings I have illustrated the preferred form of construction of my invention.

Figure 1 is a front sectional elevation of one half of the machine, and Fig. 2 is a side elevation of same.

The machine is composed of a plurality of radial slides 2, revolving on a central shaft 6 and capable of being reciprocated radially. Said slides are held in disk-plates 32 provided with guides 44, 45 and by radial supports 4. These slides are moved radially through the agency of fingers 5 extending into slots 3 of the disk-plates 32. The means for producing these radial move-

ments are not shown in the drawings. The slides are only moved radially when they are in horizontal positions, that is, outwardly toward the match-bars for receiving matches and inwardly toward the central shaft for discharging the matches. The outer position of the slides is indicated by 2^a, while the inner position is indicated by 2^b. During half a revolution of the drum the slides remain in the position 2^b and during the other half they remain in the position 2^a. During the lower half of the revolution of the drum a stationary casing 31, fitted snugly around the periphery of the slides, prevents the matches from dropping from the compartments, said casing forming the bottom wall of the compartments formed of the disk-plates and the slides. The casing 31 is divided into a plurality of compartments by a number of partitions 29, 33, corresponding to the width of the slides and arranged at right angles to the shaft 6 as shown. Provided in the slides 2 are open slots corresponding to said partitions so that the slides extend to the inner side of the casing 31 when they are in the position 2^a, whereby I form compartments closed on five sides and wherein the matches are received with the heads toward the inner open side.

The drum is rotated by means of a worm 26 mounted on a shaft 25, and a projection-wheel 27 which is rigidly connected with the shaft 6. The shaft 25 is actuated through the agency of gear-wheels 22 by the main shaft 7, which moves also the endless chain 14 formed of the perforated match-bars, through the agency of a worm 8, engaging the projections of a wheel 9, mounted on the shaft 10 carrying the sprocket-wheels 11 around which passes said chain. Suitable gear-wheels 38, 39, 40 are provided for actuating simultaneously the second sprocket-wheel 13 on the shaft 11.

The movement of the chain is indicated by arrows 41, 42, 43. The device for pushing the matches out from the match-bars is actuated by an auxiliary shaft 17, actuated in turn by bevel gear-wheels 15. The stroke of the pushing-bar 23, 24 is produced by the eccentric disk 16, the levers 19, 20 and the slide-bar 21. The pressure produced on the chain at the moment the matches are pushed out therefrom is compensated by the pressure-bar 30, 29.

The operation of the machine is as fol-

lows: After being pushed out from the feed-chain the matches 1 drop freely upon the slide 2 in the position 2^a whereupon said slide is lowered. During the lowering of this slide to the next position of rest, the next slide 2, which was in the position 2^b will be brought in the position 2^a and at the same time rotated around the axis of the drum. The second slide closes in this way the first compartment and serves as a bottom for the second compartment which will now be filled with matches. This operation is repeated periodically and in a manner corresponding to the discharge of matches from the chain, the drum being at the same time rotated periodically for the purpose of lowering the slides.

The matches contained in the compartments closed on five sides are moved by the drum through an angle of about 180° until they are brought again to a horizontal position at 36. In this position the slides 2 are moved back toward the shaft 6, that is, they are brought from the position 2^a to the position 2^b, whereupon the matches may be brought into the collecting magazine or packed directly in boxes. After the matches are discharged from the compartments, the slides are moved through another angle of about 180° back to their initial position in front of and below the match-bars.

I wish it to be understood that my invention is not limited to the details of construction herein described and that the various parts thereof may be arranged in any other suitable way without departing from the scope of the invention. For instance I may substitute for the revolving drum a chain having compartments formed therein by movable slides, said chain being moved parallel to and arranged in front of the match-bars.

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

1. In a machine of the class described, the combination with the endless chain of match-bars, wheels around which passes said chain, means for actuating said wheels intermittently and suitable devices for pushing matches out from the chain bars; of a plurality of movable slides, a suitable carrier for said slides, arranged to move the latter in front of the chain of match-bars, means for pushing the slides outwardly below the matches before they are pushed out from the bars, means for holding the discharged matches between two adjacent slides in their outer positions, and means for moving the slides inwardly at the desired place, substantially as set forth.

2. In a machine of the class described, the combination with the endless chain of

match-bars, wheels around which passes said chain, means for actuating said wheels intermittently and suitable devices for pushing matches out from the chain bars; a revolving drum, arranged in front of said chain, a plurality of radial slides, movable in radial directions in said drum, means for moving said slides outwardly below the match-bars for the reception of matches from said bars, means for holding matches between two adjacent slides during the revolution of the drum, means for moving the slides inwardly when it is desired to discharge the matches therefrom, and means for revolving the drum intermittently, substantially as set forth.

3. In a machine of the class described, the combination with the endless chain of match-bars, wheels around which passes said chain, means for actuating said wheels intermittently and suitable devices for pushing matches out from the chain bars; a revolving drum, arranged in the front of said chain, a plurality of radial slides, movable in radial directions in said drum, means for moving said slides outwardly below the match-bars for the reception of matches from said bars, a suitable casing around the lower half of the drum, arranged so that the outwardly moved slides extend to the inner side of said casing, means for moving the slides inwardly when it is desired to discharge the matches therefrom, and means for revolving the drum intermittently, substantially as set forth.

4. In a machine of the class described, the combination with the endless chain of match-bars, wheels around which passes said chain, means for actuating said wheels intermittently and suitable devices for pushing matches out from the chain bars; a revolving drum, arranged in the front of said chain, a plurality of radial slides, movable in radial directions in said drum, means for moving said slides outwardly below the match-bars for the reception of matches from said bars, a suitable casing around the lower half of the drum arranged so that the outwardly moved slides extend to the inner side of said casing, suitable partitions in said casing for measuring off the matches according to packing boxes, means for moving the slides inwardly when it is desired to discharge the matches therefrom, and means for revolving the drum intermittently, substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY ALFRED GSELL.

Witnesses:

O. TICHERHAM,
W. REHMER.