(No Model.)

H. J. BANG.

ELECTRICALLY OPERATED REGISTER FOR BARRELS, &c.

No. 526,140. Patented Sept. 18, 1894.

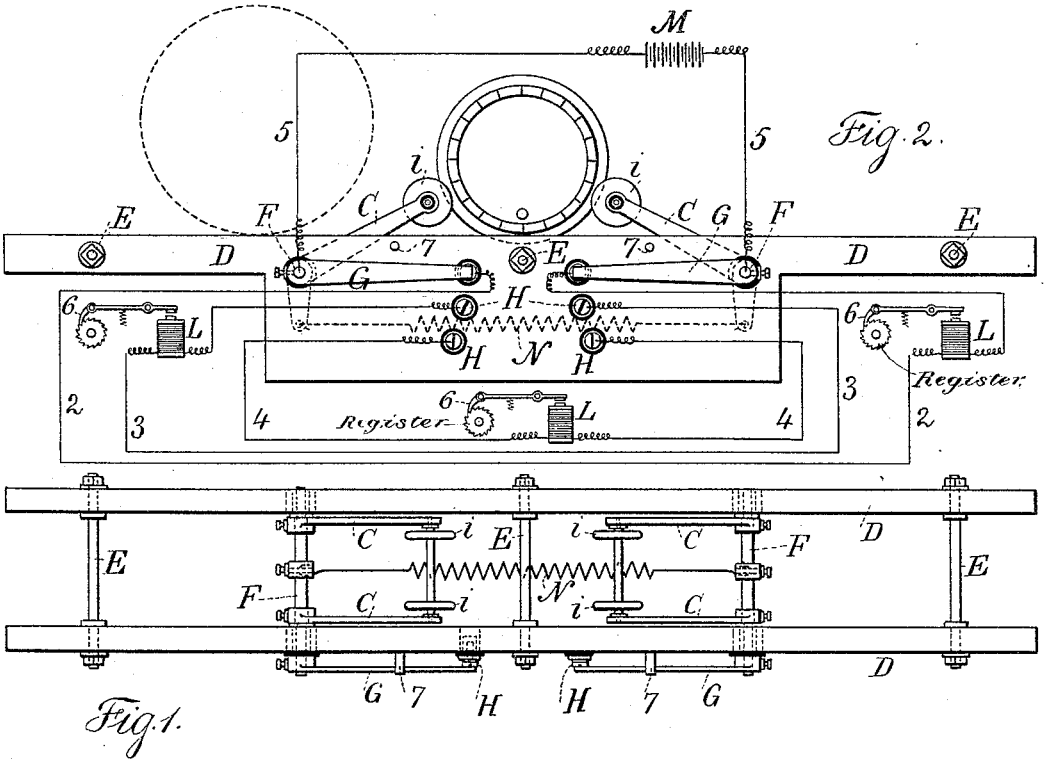

Fig. 1.

Fig. 2.

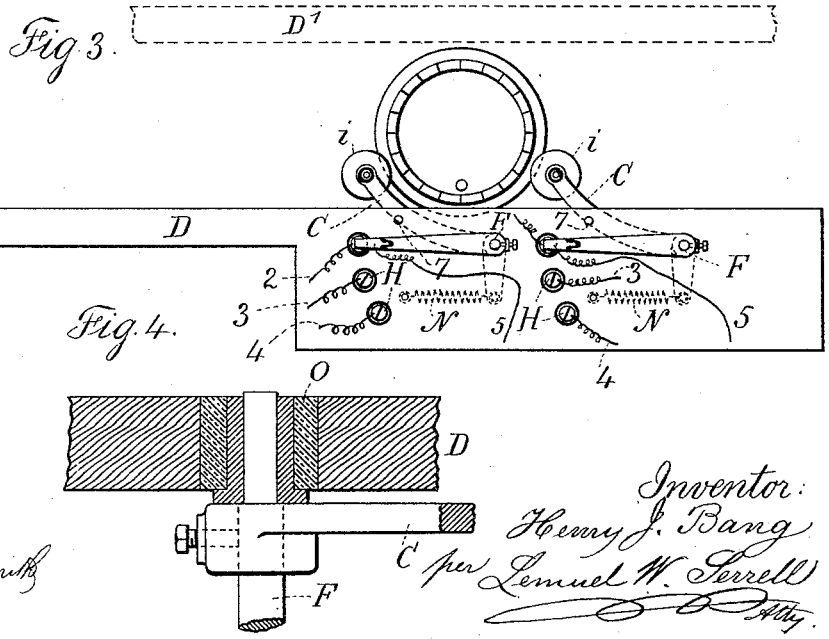

Fig. 3.

Fig. 4.

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HENRY J. BANG, OF NEW YORK, N. Y.

ELECTRICALLY-OPERATED REGISTER FOR BARRELS, &c.

SPECIFICATION forming part of Letters Patent No. 526,140, dated September 18, 1894.

Application filed April 4, 1894. Serial No. 506,240. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. BANG, a citizen of the United States, residing in the city, county, and State of New York, have invented an Improvement in Electric Counting Apparatus, of which the following is a specification.

Barrels, boxes, and cans are often delivered from a manufactory and it becomes important to keep an account of the number of such articles and of the sizes thereof. This is especially necessary where barrels of beer are allowed to pass down a skid for delivery to carts or wagons and the sizes are various and require to be separately registered.

In my present improvements I make use of an electric counting apparatus in which there are separate counters, one for each size of barrel, box, or other article, and there are electric circuits leading to such counting or registering devices, and the respective circuits are closed only when the devices that come in contact with the barrel or other package are parallel to the skid or way along which the barrels or other packages are passed, and hence the places at which the circuits will be closed will vary according to the sizes of the respective barrels or other packages.

In the drawings, Figure 1 is a plan view illustrating the skid or other way along which the barrels, boxes, cans, or other packages are caused to pass, showing also the swinging arms that come in contact with the articles as they pass along. Fig. 2 is a side view of the device of Fig. 1, illustrating also the circuit connections. Fig. 3 is a modification illustrating the parts in a different position. Fig. 4 is a section of the axis of one of the arms.

The skid D is of any suitable character, usually made of two beams or side pieces united together by the cross-bars E, and this skid will vary in construction and in its size according to the articles that are to be passed along it, and said skid may be open between the side beams or closed according to the circumstances of use.

Arms C are made use of pivoted upon the cross shafts or axes F, there being two axes and preferably two arms upon each axis, and at the outer ends of such arms there are rollers or wheels *i* preferably in pairs, as represented in Fig. 1, and upon the axes F arms G are permanently fastened traversing across circuit closing pins H, and these circuit closing pins H are in pairs, and the wires for the electric circuits are led away from such circuit pins in pairs, the pair of wires 2 leading to one registering device, the pair of wires 3 to another registering device, and the pair of wires 4 to a third registering device. These registering devices are of any desired character; for instance an electro-magnet L may be employed, the armature of which is provided with a pawl 6 acting upon a ratchet wheel, which ratchet wheel is provided with numbers or marks so as to act as a counter to take up one tooth each time the electric circuit is closed, and thereby keep count of the number of times the electric current passes over that particular circuit. I have shown an electric battery at M with circuit wires 5 leading to the arms G, and a spring or springs N are employed to actuate the arms C and raise the wheels or rollers *i*. I have shown a spring N as acting to partially rotate each shaft F, and stops may be provided at 7 to limit the upward movement of the arms G, and where the circuit wires 5 are connected to the axes F, the bearings should be insulated, as illustrated in Fig. 4, by hard rubber O or other suitable material, but usually the wires 5 will lead to insulated tongues upon the arms G; and it is also to be understood that the pins H are insulated.

In operating this apparatus it may be presumed that barrels of different sizes are rolled along upon the skid D, but neither circuit will be closed to either of the registering devices unless the arms G are in contact simultaneously with either pair of the circuit pins H, and as these circuit pins are arranged horizontally, as shown, the circuit cannot be closed until the axes of the rollers *i* are in a plane parallel to the surface of the skid, and that plane will be higher with smaller barrels and lower with larger barrels. Hence when a small barrel is rolled along, the circuit will be closed through the wires 2; when a larger barrel is rolled along, the circuit will be closed through the wires 3, and when the largest sized barrel is rolled along, the circuit will be closed through the wires 4, and in this manner a registration will be made in either of the circuits accord-

ing to the size of the article that is passed along over the skids.

It is to be understood that in the normal position with the circuit closing arms raised by the springs N until they are arrested by the stop 7, the electric circuits are all broken, and as a barrel is rolled along and depresses one of the arms there will not be any registration because the other arm will not be correspondingly acted upon, and the registration will only be made when both arms touch the contact pins of the same pair, and this can only occur at one point in the movement of the barrel along upon the skids, because one arm is being pressed down as the other arm is rising, and the contacts can only occur with that pair of contacts which effects the proper registration according to the size of the article. It will be apparent that the same operation takes place when the arms C are arranged in the manner represented in Fig. 3, the registration only being effected at the time the axes of the rolls *i* are in a plane parallel with the skid, and that plane will be either higher or lower as aforesaid according to the size of the barrel or other article that is passed along over the skids.

It will be understood that if the apparatus is inverted and held above the skid or support indicated by dotted lines at D′, Fig. 3, there being sufficient room or space for the articles to be passed along, then the apparatus may act downwardly and the registration will be effected in the same manner, and in this instance a registration might be made of boxes or bales of different heights, the registration being effected when the axes of the rolls *i* are parallel to the support upon which the article is being moved along, and at no other time will either circuit be closed, and according to the height of the plane passing through the rolls from the support, so one register or another register will be brought into action and the computation, tally or count effected of the number of articles passed along and of the size of such articles, the registers being so connected that the size of the article will be understood according to the circuit closing pins with which such register is connected.

I claim as my invention—

1. The combination with a support along which barrels, boxes or other articles are passed, of swinging arms adapted to press at their outer ends upon the passing articles, circuit closing arms moving with the swinging arms, stationary contact pins in pairs, electric circuit connections from such pairs, and registering devices in each of the circuits, whereby the registering devices will be actuated according to the size of the article moved along and giving motion to the swinging arms, substantially as set forth.

2. The arms C and their shafts F and rollers *i*, in combination with the circuit closing arms G connected with the respective shafts, the contact pins and electric circuit connections in pairs, a receiving instrument in each of the circuits, means for moving the arms and rollers toward the barrel or other article, and a skid or support along which such article is moved, substantially as set forth.

3. The combination in an electric counting apparatus, of a skid or other device along which the barrels or other articles to be counted are passed, a counting device for each different size of article, two circuit closing devices moved by the passage of the article and a separate circuit connection and contact for each counting device whereby the counting device is only actuated when the circuit thereto is simultaneously closed at two places substantially as specified.

Signed by me this 31st day of March, 1894.

HENRY J. BANG.

Witnesses:

GEO. T. PINCKNEY,

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