(No Model.)

D. E. DURIE & A. BEGG.

VENDING MACHINE.

No. 458,680. Patented Sept. 1, 1891.

Fig. 3

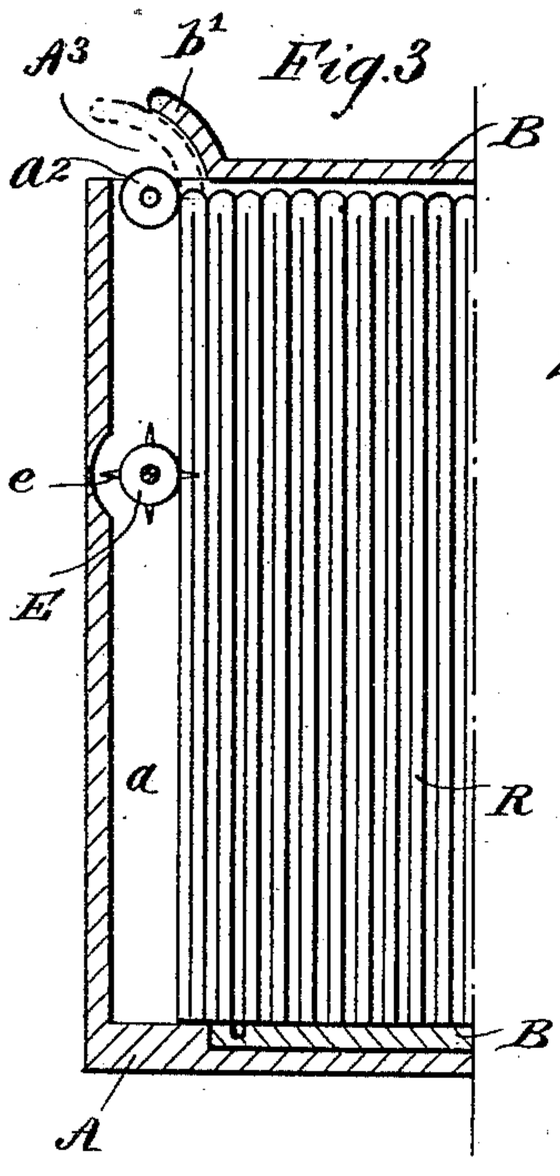


Fig. 1.

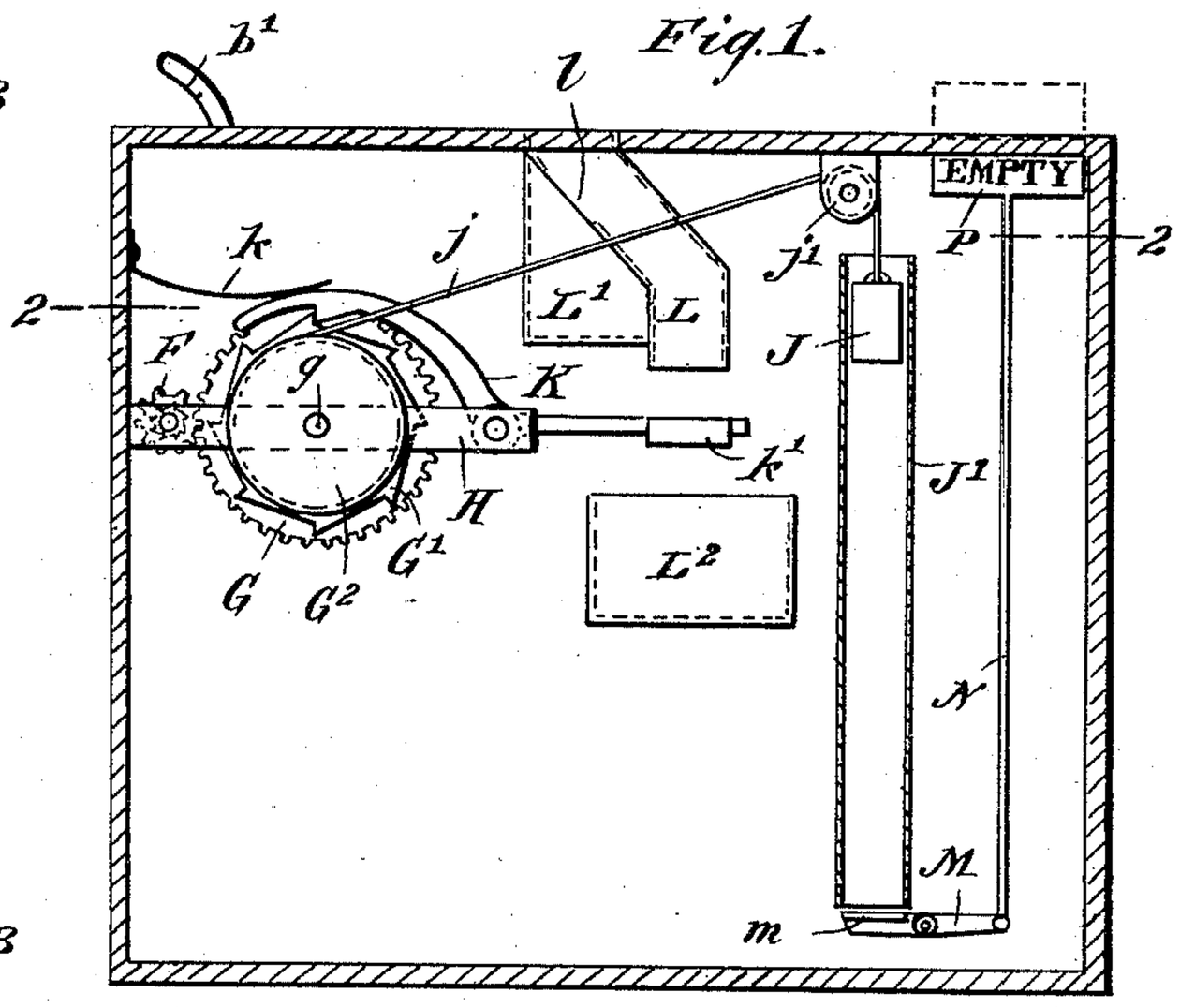


Fig. 4.

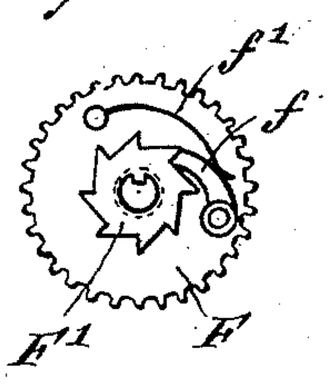
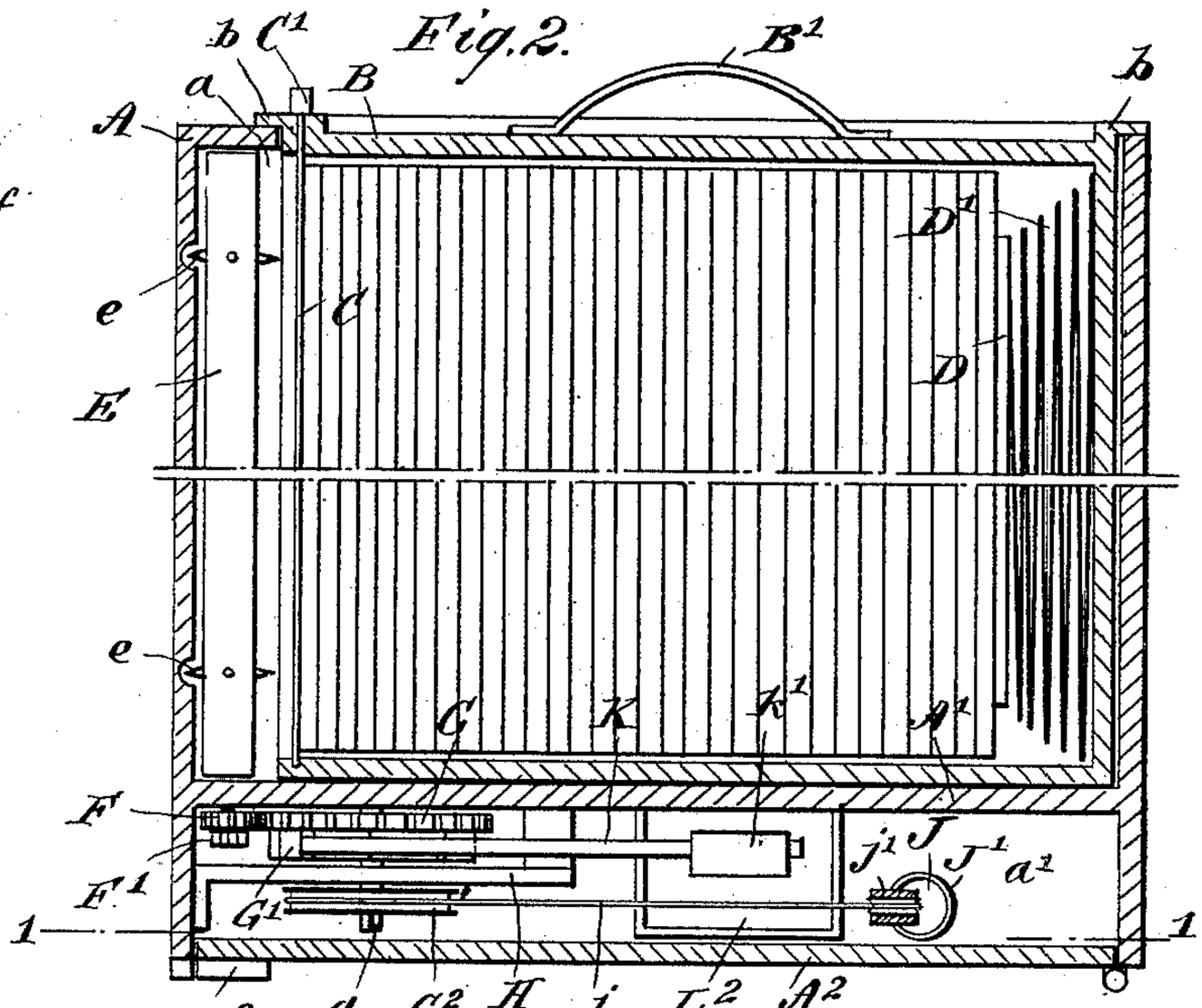


Fig. 2.



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DAVID E. DURIE AND ALEXANDER BEGG, OF SEATTLE, WASHINGTON.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 458,680, dated September 1, 1891.

Application filed January 2, 1891. Serial No. 376,491. (No model.)

To all whom it may concern:

Be it known that we, DAVID E. DURIE and ALEXANDER BEGG, of Seattle, in the county of King and State of Washington, have invented a new and Improved Vending-Machine, of which the following is a full, clear, and exact description.

Our invention relates to improvements in vending-machines; and the object of our invention is to produce a simple and convenient machine which is adapted to contain a quantity of newspapers or other publications, and which upon the insertion of a coin or several coins, if required, in the slot of the machine, representing the price of the paper, will deliver the paper to the purchaser.

To this end our invention consists in a vending-machine constructed as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical cross-section on the line 1 1 of Fig. 2, showing in elevation the coin-operated mechanism for delivering the papers. Fig. 2 is a sectional plan on the line 2 2 of Fig. 1. Fig. 3 is a broken vertical cross-section through the newspaper-holding receptacle, and Fig. 4 is a detail end view of the delivering-roller and the pawl-and-gear mechanism for operating it.

The main case A is preferably of a rectangular shape, and is adapted to be held upon a support, and the case is divided by a vertical partition A′ into two compartments *a* and *a′*, the larger compartment *a* being adapted to contain the paper-holding receptacle B and the smaller compartment affording space for the coin-operated mechanism. The case A is open at one end, so that the receptacle B may be easily inserted therein, and the case has a door A^2 at the opposite end, which is provided with a suitable lock a^3, and by means of which the coin-operated mechanism may be reached and adjusted, and the main case has an opening A^3 at the top near the front side, in which is pivoted a roller a^2 to facilitate the delivery of the papers within the receptacle B, as described below. The receptacle B is shaped to fit closely within the case A, and is provided on opposite sides with flanges *b*, which overlap the sides of the case, and is also provided with a suitable lock, so that it may be locked in place. The receptacle B has a handle B′ to enable it to be easily placed in and out of position in the case, and on the upper front edge of the receptacle is a flange *b′*, which is curved upward and forward, so as to extend over the roller a^2 and protect the opening in the case from rain. The receptacle B is open on the front side, but is temporarily closed by a slide C, which extends across the opening in the case, and which is provided with a button or handle C′ at its outer end. In the rear end of the receptable B is a plate D, which is normally pressed forward by a spring D′, which is inserted between it and the back of the receptacle. The object of the spring and plate is to press the newspapers toward the front end of the receptacle, so that they will be operated on by the brads *e* on the roller E. The roller E is pivoted in the front end of the case and extends across the compartment *a*, the walls of the case being cut away to provide for the movement of the brads *e*, and the roller-shaft extends through the partition A′ and is provided with a gear-wheel F and a ratchet-wheel F′. The gear-wheel is mounted loosely on the shaft and the ratchet-wheel is keyed to the shaft, as best shown in Fig. 4, and pivoted on the gear-wheel is a pawl *f*, which engages the ratchet-wheel F′, and which is normally pressed into engagement therewith by a spring *f′*. It will thus be seen that when the gear-wheel F is turned in one direction the ratchet-wheel F′ and the roller E will be also turned; but when the roller is turned in the same direction the gear-wheel will not be operated. This construction is to enable the papers to be fed upward to a certain point, as hereinafter described, and to prevent the brads from tearing the papers when they are withdrawn from the receptacle. This operation will be fully described below.

A gear-wheel G meshes with the gear-wheel F, and is pivoted on a shaft *g*, which is mounted in a bracket H, and which is squared at the end to receive a wrench or key, and a ratchet-wheel G′ is fixed to the same shaft and to the gear-wheel G, and on the outer end of the shaft is a pulley G^2, which is also fixed to the same. The pulley G^2 has a belt or cord *j*

fixed thereto and extending around the same, and the cord passes over a pulley j', which is pivoted in lugs on the under side of the case top or cover, and the end of the cord is secured to a weight J, which moves vertically in a slideway J', and the heft of the weight will normally turn the pulley G^2, the shaft g to which it is affixed, the ratchet-wheel G', the gear-wheel G, and the gear-wheel F. The ratchet-wheel is only intended, however, to turn the distance of one tooth at a time, and a bent pawl K is pivoted in a support adjacent thereto and is held in engagement with the ratchet-wheel by a spring k. The pawl has an extended end which terminates in a plate k', which is adapted to receive a coin, and the weight of the pawl and the strength of the spring are such that a coin of the proper size will raise the pawl from the ratchet-wheel and allow it to turn the distance of one tooth, the coin then sliding from the plate and the pawl being returned to the ratchet-wheel by the pressure of the spring.

A chute L is arranged to deliver upon the plate k', the chute being bent and having an opening l, through which a coin of small size may drop into a box L', and a box L^2 is arranged beneath the coin-plate to receive the coins. A lever M is pivoted near the bottom of the slideway J', and one end m of the lever extends beneath the slideway. The opposite end of the lever is pivoted to a vertical rod N, which extends to the top of the case A, and which is fixed to a sign P, bearing the word "empty," so that when the receptacle is emptied and the weight J is at the bottom of the slideway it will tilt the lever M and raise the sign above the top of the case, so that purchasers may see that the supply of papers is exhausted, and will not therefore place any coins in the slot.

The ratchet mechanism, the coin-chutes, and the arrangements for displaying the sign are substantially the same as the apparatus described in a former application of ours, which application was filed December 29, 1891, Serial No. 376,148, and we do not claim the same as a part of this invention.

The operation of the device is as follows: The mechanism is wound up by means of a key or wrench applied to the shaft g, and the receptacle B, which has been filled with papers at the publishing house, is inserted in the case A and locked in place, the slide C being then removed, so as not to interfere with the feeding of the papers. The spring-pressed plate D will force the papers against the roller E, and when a coin is dropped into the chute L the pawl will be lifted from the ratchet-wheel and the weight J will cause it to turn a distance of one tooth, as described. This will turn the gear-wheel G, gear-wheel F, and the roller E, and the brads e on the roller will engage the paper nearest to the same and raise the paper, so that its upper edge will project through the opening in the case, as indicated by dotted lines in Fig. 3. The purchaser then takes hold of the paper and pulls it from the case, and when the paper is withdrawn it will be seen that the roller E will be revolved by the action of the paper thereon; but when the roller is revolved the ratchet-wheel F' will turn, but will not turn the gear-wheel F, so that no damage is done to the paper or to the operating mechanism of the machine.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A vending-machine comprising a case having a roller pivoted in one end, a removable receptacle fitting the case and having in one end a spring-pressed plate, and coin-operated mechanism for revolving the roller, substantially as described.

2. In a vending-machine, the combination, with a main case having an opening at the top and having coin-operated mechanism mounted therein and a roller pivoted in the front end of the case and provided with projecting brads, said roller being geared to the coin-operated mechanism, of a receptacle fitting within the case, said receptacle having the end next the roller closed by a slide and having in the opposite end a spring-pressed plate, substantially as described.

3. In a vending-machine, the combination, with a main case carrying coin-operated driving mechanism and having an opening in the top, a roller pivoted in the opening, and a roller pivoted beneath the opening and provided with projecting brads, the latter roller being geared to the coin-operated mechanism, of a receptacle fitting in the case, said receptacle having the end next the rollers provided with a removable slide and having in the opposite end a spring-pressed plate, substantially as described.

4. In a vending-machine, the combination of a coin-controlled driving-gear, a bradded delivery-roller having at one end a ratchet-wheel, and a gear-wheel mounted loosely on the roller-shaft and geared to the driving mechanism, said gear-wheel having a pawl thereon engaging the ratchet-wheel of the roller, substantially as described.

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