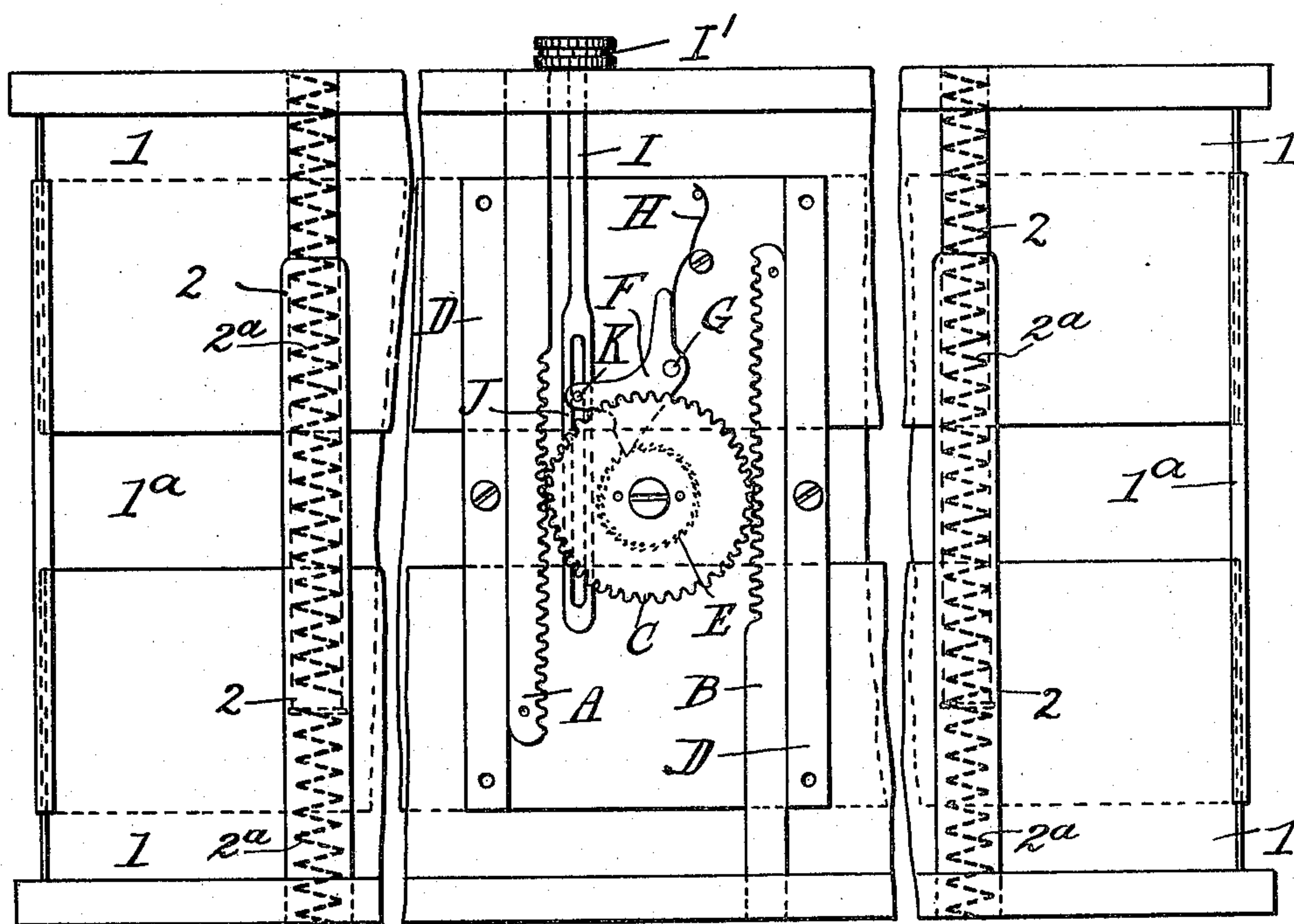


A. T. WARNE.
 LOOSE LEAF BOOK, SUCH AS LEDGER, ORDER BOOK, AND THE LIKE.
 APPLICATION FILED SEPT. 28, 1905.

915,812.

Patented Mar. 23, 1909.



Witnesses.
 James J. Linton
 Ernest A. Murrell.

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UNITED STATES PATENT OFFICE.

ALBERT THOMAS WARNE, OF LEYTONSTONE, ENGLAND, ASSIGNOR TO SPICER BROTHERS,
OF LONDON, ENGLAND, A CORPORATION OF ENGLAND.

LOOSE-LEAF BOOK, SUCH AS LEDGER, ORDER-BOOK, AND THE LIKE.

No. 915,812.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed September 28, 1905. Serial No. 280,475.

To all whom it may concern:

Be it known that I, ALBERT THOMAS WARNE, engineer, a subject of the King of England, residing at 5 Cowley road, Leytonstone, in the county of Essex, England, have invented certain new and useful Improvements in Loose-Leaf Books, such as Ledgers, Order-Books, and the Like, of which the following is a specification.

10 This invention has for its object improvements in loose leaf books, such as ledgers, order books and the like which have a back consisting of three parts, one center and two outer ones, the two outer parts being
15 pushed apart by telescopic posts inclosing springs, the central remaining stationary.

The said invention is illustrated in the accompanying drawing.

20 The outer tray like parts that form the back of the book or volume are indicated at 1 1; the central part is shown at 1^a. Telescopic spring posts of the usual kind are shown at 2 2. They inclose coiled springs for expanding the whole. This arrangement of spring posts is well known and calls
25 for no further description. The springs, however are shown in dotted lines 2^a, 2^a. A locking post is also employed as is usual in books of this character.

30 The principal feature of this invention is the application to a loose-leaf book the back of which consists of three parts of mechanism that will prevent the obnoxious jerk caused by the unchecked action of the springs in
35 the telescopic posts and make the expansion of the volume quiet and steady.

The means consist essentially in a toothed wheel and pawl on the central part acting in conjunction with racks on the outer parts
40 and means for stopping the motion. A rack A is fixed on the top tray and another rack B on the bottom tray. These racks engage with a gear wheel on the central part 1^a. Each rack slides with its untoothed part
45 upon a bar D, D, which holds it in position so that the racks work steadily between bars D, D, on the one hand and the wheel C on the other.

To the wheel C or to its spindle is attached

a ratchet wheel E. It is preferred to rivet 50 the wheels together but any means causing them to rotate together will serve the purpose. A pawl F fulcrumed at G engages with the ratchet wheel E, a spring H serving to maintain the engagement.

55 I is a rod having a head, stud or button at I¹. It serves to lift pawl F out of engagement with the ratchet wheel E. The rod I has a slotted extension J which works on a stud K carried by the pawl F. When the rod I is lifted by raising 60 stud I¹ the lower closed end of slot J pulls on the stud K causing release of the ratchet wheel E. This permits the telescopic posts to become operative and to expand the volume or book. The engagement of the racks A and B with 65 wheel C, rotates the latter and this checks the motion, taking up the jerk that heretofore has been so unpleasantly noticeable in devices of this class. The racks A and B bearing against bars D, D, work very smoothly and 70 balance one another. As soon as the rod I is released the spring H carries pawl F back into engagement with the ratchet wheel E and the motion is stopped.

Claims.

75 1. In a loose leaf book having a back consisting of three parts and expanded by spring posts, a slotted rod extending to the exterior of the volume, a spring pawl actuated by such rod, and rack and pinion gear fixed 80 on the central part and operated by the spring pawl.

2. In a loose leaf book having a fixed central portion and moving outer parts with telescopic spring posts between the same, a 85 pinion on the central part and a rack on each outer part so placed as to engage with the pinion on either side, a ratchet wheel rigidly connected with the pinion, a spring pawl engaging with the ratchet wheel, a slotted bar 90 engaging with a stud on the spring pawl, and means for raising the slotted bar.

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

ALBERT THOMAS WARNE.

Witnesses:

BERNHARD DUKES,
JAMES I. LINTON.