

A. L. DREXLER & W. H. DITTMAR.
BOOK COVER RUBBING AND CLEANING MACHINE.
APPLICATION FILED SEPT. 3, 1910.

999,488.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.

Fig. 1,

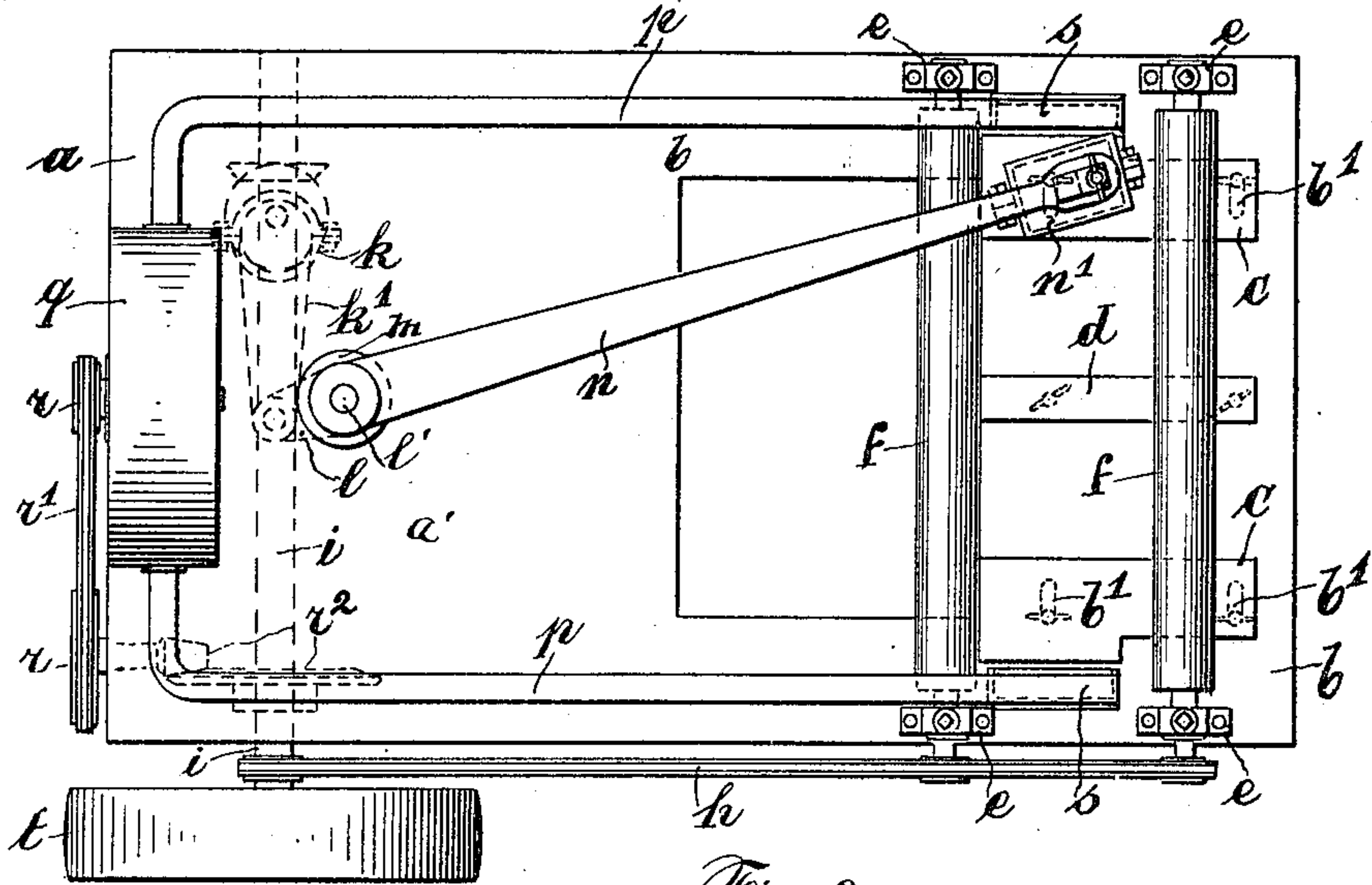
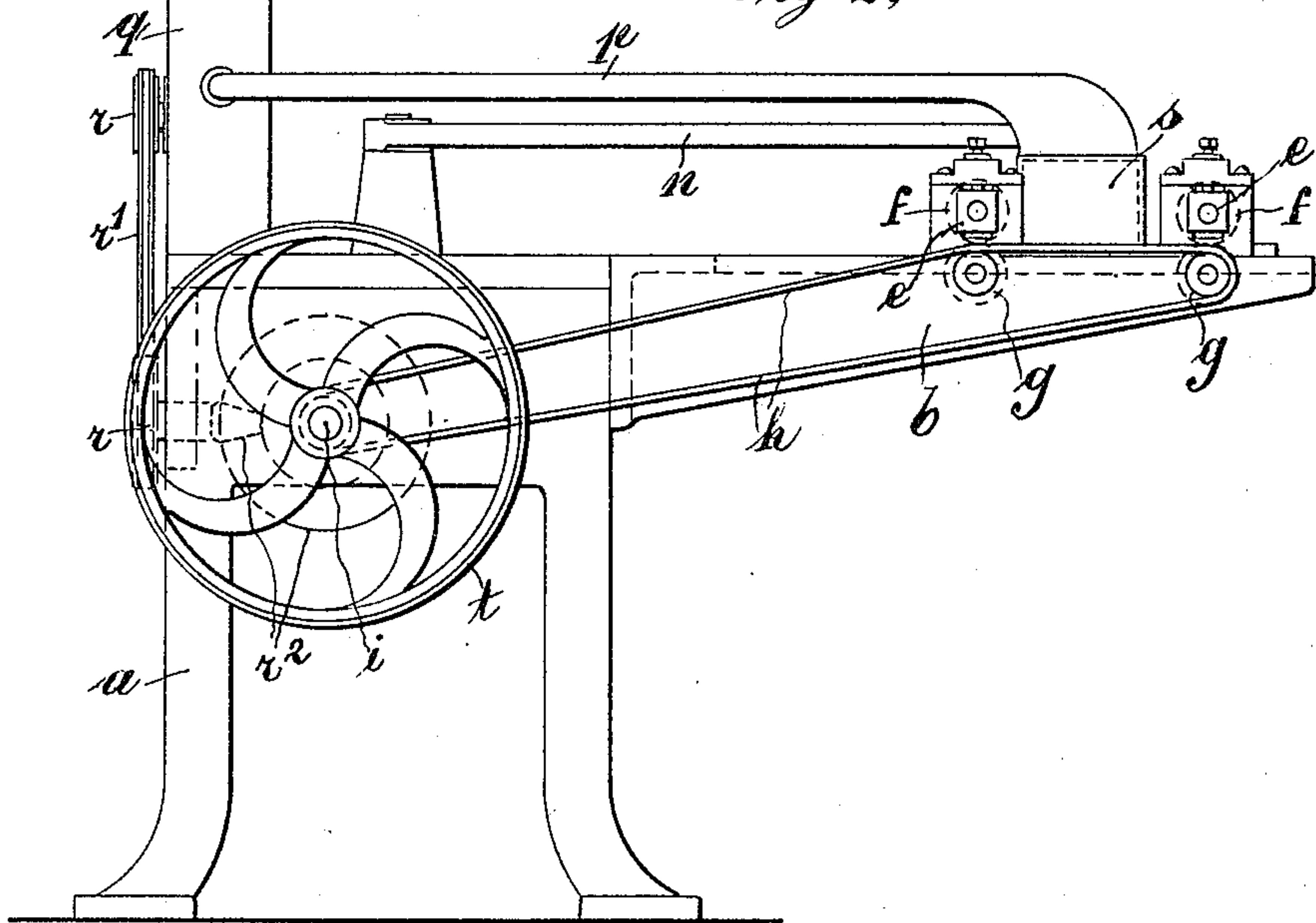


Fig. 2,



Witnesses:
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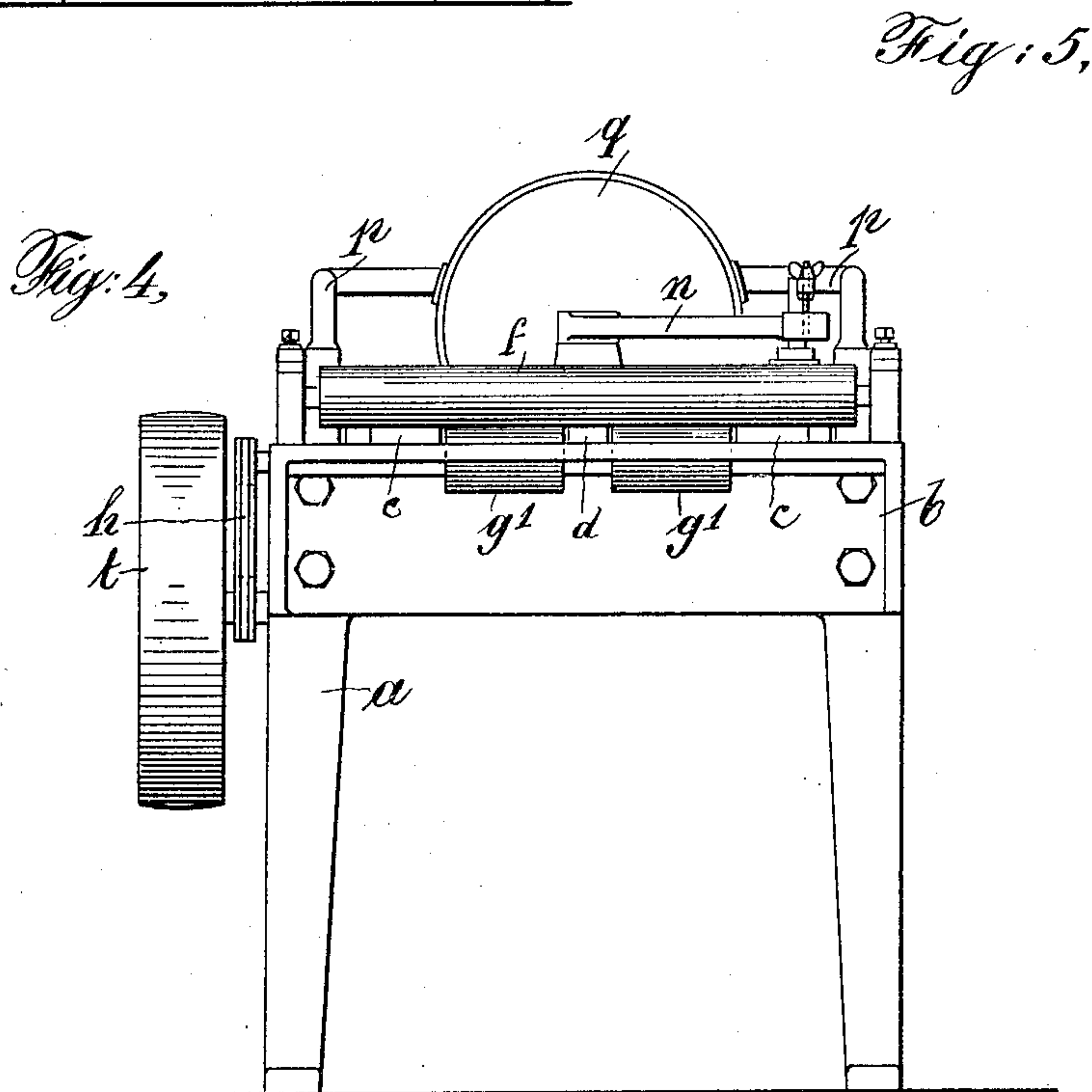
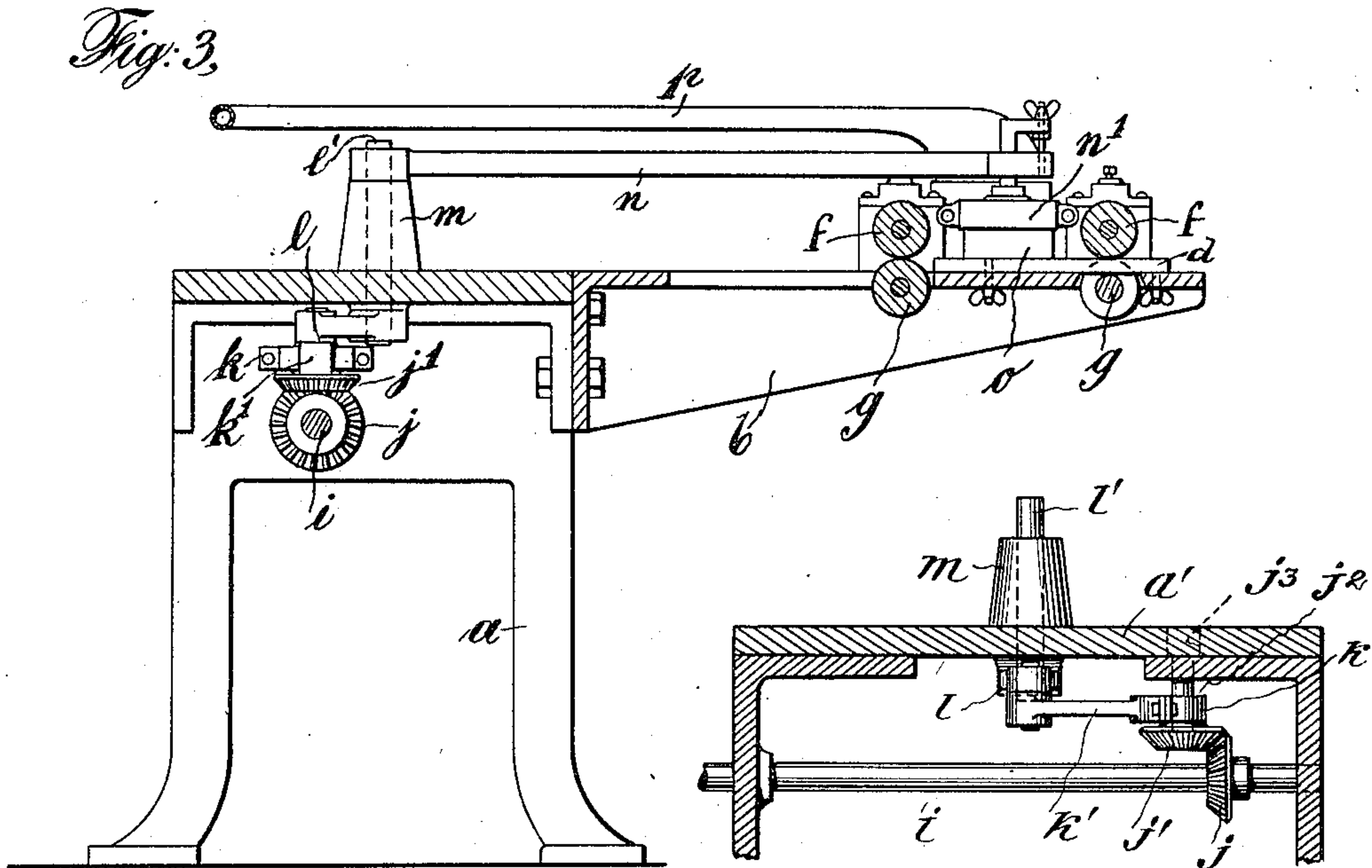
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UNITED STATES PATENT OFFICE.

ANTHONY L. DREXLER AND WILLIAM H. DITTMAR, OF JERSEY CITY, NEW JERSEY.

BOOK-COVER RUBBING AND CLEANING MACHINE.

999,488.

Specification of Letters Patent.

Patented Aug. 1, 1911.

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To all whom it may concern:

Be it known that we, ANTHONY L. DREXLER and WILLIAM H. DITTMAR, both citizens of the United States of America, and residents of Jersey City, in the county of Hudson and State of New Jersey, have jointly invented a new and useful Book-Cover Rubbing and Cleaning Machine, of which the following is a specification.

10 This invention relates to a novel machine for rubbing and cleaning book covers particularly devised for the purpose of removing the excess of gold leaf, silver leaf, aluminum leaf and metal leaf in general from the
15 back and sides of the book cover when same are ornamented by print and embellishing designs.

Heretofore when the title of the book, the author's name or the like was applied to
20 the back of the book cover or when the sides were embellished by beautiful designs, the letters and designs were first usually produced thereon by printing them without any color or gold leaf for instance, so that there
25 were merely impressions in the cover. Then the gold leaf was applied largely in excess and that excess was generally removed by hand. This was a rather tedious, painstaking and time taking operation involving
30 considerable expense.

The present invention has for its purpose to produce a book cover rubbing and cleaning machine which removes the excess of gold leaf quickly and effectively without
35 injuring or defacing the desired golden print or ornamental designs. For this purpose we have constructed a machine comprising an automatic feeding device, a reciprocal movement with soft rubber attachment at the bottom of same or a suitable
40 brush so constructed that the soft rubber or brush passes over the book cover and removes the excessive gold leaf. Means are provided for shifting the book cover into
45 the machine and means for securing the latter in a fixed position. There are further means to deliver the cleaned book covers into a suitable box or basket, and means to recover the excessive metal leaf, all as will
50 be fully described hereinafter with reference to the accompanying drawings in which:

Figure 1 represents in top plan view a book cover rubbing and cleaning machine
55 embodying in desirable form the present

improvements. Fig. 2 is a side elevation of same. Fig. 3 is a longitudinal vertical section through the machine. Fig. 4 illustrates the machine in front view, and Fig. 5 is a vertical sectional detail view of the driving
60 mechanism shown in Fig. 3.

Similar characters of reference denote like parts in all the figures.

In the drawings *a* represents substantial frame work with a supporting plate *b* extending laterally. The plate *b* is centrally
65 cut out as shown in Figs. 1, 2 and 3 for purposes to be mentioned later on. Two guide plates *c* are adjustably mounted on the plate *b* one each near its side end portions. Below
70 these guide plates there are slots *b*¹ in the plate *b* to allow of adjusting said guide plates sidewise so as to conveniently support book covers of various sizes. A third
75 plate *d* is stationarily fixed to the plate *b* in the center of same between the guide plates *c*. On the plate *d* rests the curved back of the book cover during the operation of the machine while the sides of the cover
80 rest on the guide plates *c*.

On the supporting plate *b* there are bearings *e* to support the rollers *f*. These rollers may slide up and down in the bearings to allow of the insertion of book covers of
85 various thicknesses. Underneath the rollers *f* there are rollers *g* driven by a chain *h* from the main shaft *i*. A bevel gear *j* on the main shaft *i* meshes with a bevel gear *j*¹ mounted on a stud *j*² which is in a bearing
90 *j*³ on the table plate *a*¹. On the shaft of the bevel gear *j*¹ there is an eccentric *k* to which a link *k*¹ is connected. At the end of the link *k*¹ there is a lever arm *l* whose other end carries a vertical shaft *l*¹ in a
95 bearing *m*. On the top end portion of the shaft *l*¹ a long horizontal arm *n* is provided. In order to substantially support the stud *l*¹ and the lever arm *n* a bearing *m* supported on the table plate *a*¹ is provided. The
100 stud *l*¹ passes movably through the bearing *m*. At the other end of the lever arm *n* there is attached a divided support or holder *n*¹ extending downwardly and carrying the brush or soft rubber *o* which passes over the book
105 cover during the operation of the machine for the purpose of removing the excessive gold leaf or the like.

On the plate *b* near its outer ends there are open boxes *s* for the purpose of receiving the gold dust which has been removed
110

by the soft rubber or brush *o*. The gold dust is drawn out of these boxes in the usual way by suction through pipes *p* which connect with a suction fan *q* which in turn is driven by sprocket wheels *r* and a chain *r*¹ which sprockets *r* are connected to the main shaft by bevel gears *r*². In this way the collected excessive gold leaf may be easily recovered.

10 The front roller *g* is divided into sections *g*¹ as shown in Fig. 4 to allow of space for the guide plates which, by their adjustment, render it possible to insert book covers of various widths. The roller mechanism
15 draws in the book cover and the soft rubber or brush on the lever arm *n* cleans same. The book cover then falls through the opening in the supporting plate *b*, above mentioned, into a basket or the like. The rollers
20 *f* are in frictional contact with the rollers *g* when no book cover is between them. When a book cover is inserted between said rollers it will be drawn in by the action of the rollers *g* which are power driven and the rollers
25 *f* then rotate by reason of being in contact with the moving book cover. The main shaft *i* is rotated by means of a power pulley *t* mounted on said main shaft. The lever *n* which carries the soft rubber or brush *o* like-
30 wise is driven from the main shaft *i* as above described. By virtue of the eccentric *k* the lever *n* performs an oscillating movement and the soft rubber or brush passes over the book cover to and fro whereby a perfect
35 cleaning of same is effected. The exhaust fan *q* for recovering the excess of gold leaf also is driven from the main shaft by the bevel gears *r*² and sprockets *r* connected by the chain *r*¹. Thus the feed rollers, the re-
40 ciprocating lever with cleaning devices attached thereto, and the exhaust fan for recovering the excess of gold leaf are all driven from one main shaft and power pulley and all that is required is to feed the
45 book covers into the machine and remove the filled baskets into which the cleaned covers fall automatically. The machine therefore saves a great deal of wages and cleans the book covers more uniformly than they can
50 be cleaned by hand. By the simplicity of its construction the machine may be operated by any unskilled person but produces uniform and neat work.

We claim as our invention:

55 1. A book cover rubbing and cleaning machine, comprising frame work, a horizontal plate thereon, end guide plates and a central supporting plate for the book cover supported on the horizontal plate, a reciprocating device for cleaning the covers, a book
60 cover feeding device, and means for operating the cleaning and the feed devices.

65 2. A book cover rubbing and cleaning machine, comprising frame work, a horizontal plate thereon, two adjustable end guide

plates and a central stationary plate for supporting the book covers on said horizontal plate, a roller device for feeding in the book covers, a reciprocating device for cleaning same, and means for operating the machine. 70

3. A book cover rubbing and cleaning machine, comprising frame work, a horizontal plate thereon having a large central opening in its inner portion, two adjustable end guide plates and a fixed central plate for supporting the book cover, a feed roller device drawing the covers in and delivering same through the opening in the horizontal plate, an oscillating device for cleaning same, and means for operating the machine. 80

4. A book cover rubbing and cleaning machine, comprising frame work, a horizontal plate thereon having a large opening in its inner portion, two adjustable end guide plates and a central stationary plate for supporting the book covers, a feed roller device consisting of two chain operated lower rollers, and two movable upper rollers in frictional contact therewith when no cover is operated upon, an oscillating device for cleaning the covers, and means for operating the machine. 85

5. A book cover rubbing and cleaning machine, comprising frame work, a roller device for feeding-in the book covers, and a cover rubbing and cleaning device comprising a gear operated eccentric, a horizontal link connected to the eccentric, a short lever arm at the opposite end of said link, a vertical shaft connected to said lever arm, a bearing for said vertical shaft, a horizontal oscillating lever on the top end portion of same, a soft cleaning device supported on the oscillating lever and extending downwardly, and means for operating the feed and cleaning mechanism. 90

6. A book cover rubbing and cleaning machine, comprising frame work, a horizontal plate thereon having a large central opening in its inner portion, two adjustable end guide plates, and a fixed central plate for supporting the book cover, a chain, a feed roller device operated by said chain consisting of an outer lower roller divided into sections, an inner lower roller, and two upper rollers in frictional contact with the lower rollers when no cover is operated upon and adapted to move up and down to accommodate covers of various thicknesses, an oscillating rubbing and cleaning device passing over the covers during cleaning same, two open boxes on the outer ends of the cover supporting plate for receiving the rubbed off excessive metal leaf, and a suction fan in connection with said open boxes. 100

7. A book cover rubbing and cleaning machine, comprising suitably supported end plates for the cover, a fixed central plate for supporting the back of the cover, a chain operated feed roller device, gears, an ec- 110

centric operated by said gears, a horizontal link connected to the eccentric, a short lever arm at the opposite end of said link, a vertical shaft connected to said lever arm, a bearing for said vertical shaft, a horizontal oscillating lever on the top end portion of same, a soft rubbing and cleaning device on said oscillating lever passing over the ornamented covers during the operation of the machine, two open boxes on the outer ends of the cover supporting plate for receiving the surplus metal leaf, and a suction fan in connection with said boxes.

8. A book cover rubbing and cleaning machine, comprising frame work, a main power shaft with pulley supported therein, a horizontal plate on the frame, end guide plates and a stationary central plate for supporting the book cover thereon, a chain operated cover feeding-in roller device driven from the main shaft, an oscillating cover rubbing and cleaning device driven from the main shaft, two open boxes on the outer ends of the cover supporting plate for receiving the rubbed off surplus metal leaf, and a suc-

tion fan in connection with said boxes also operated from the main shaft.

9. A book cover rubbing and cleaning machine, comprising frame work, a main power shaft with pulley supported therein, a horizontal supporting plate on the frame, end plates for supporting the book cover, a cover feeding-in roller device, means for driving same from the main shaft, gears on the main shaft, an eccentric driven thereby, a horizontal link connected thereto, a short shaft with vertical stud, and an oscillating lever carried by the stud, a divided casing on the outer end of said oscillating lever, a soft cleaning device supported in said casing, and means for removing and collecting the surplus metal leaf.

Signed at Jersey City, N. J., this 29th day of August, 1910.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."