

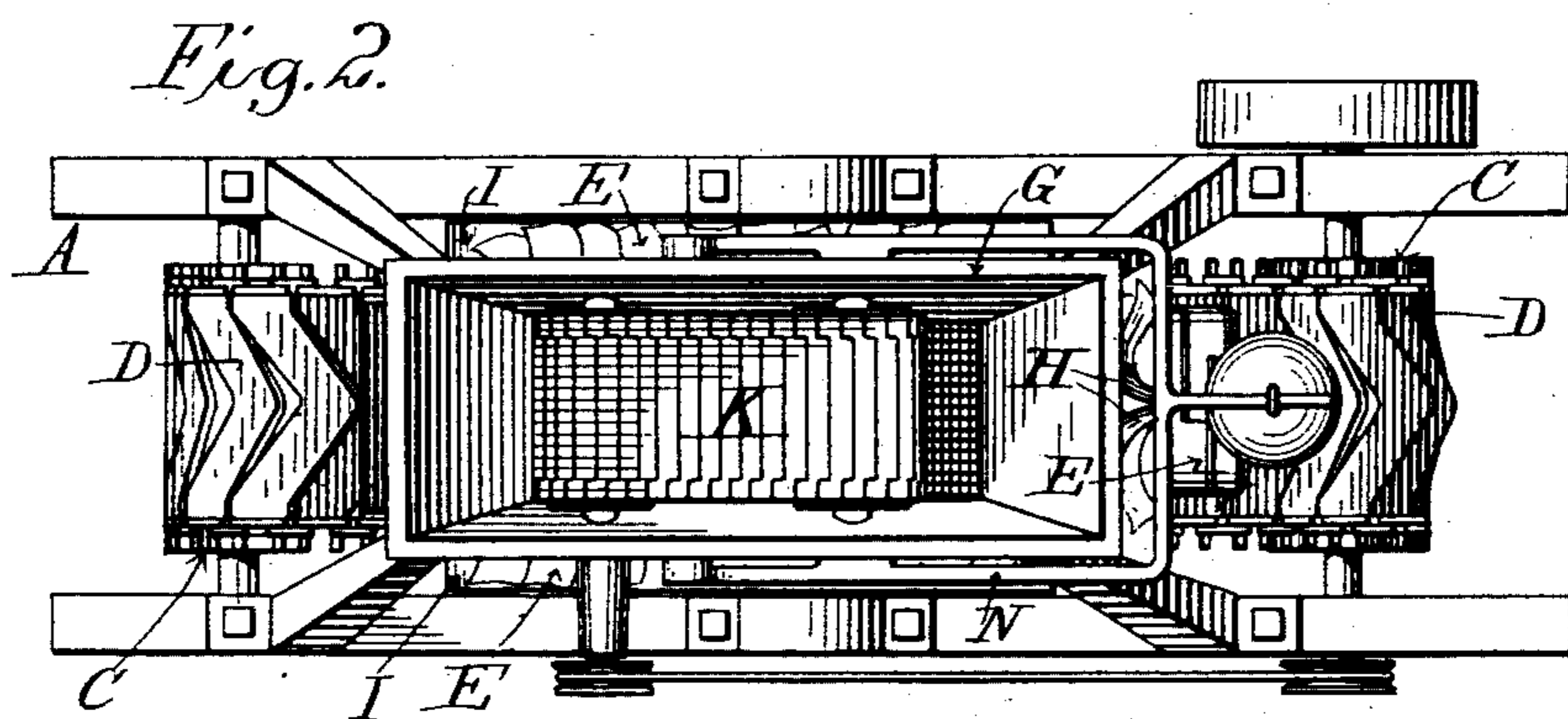
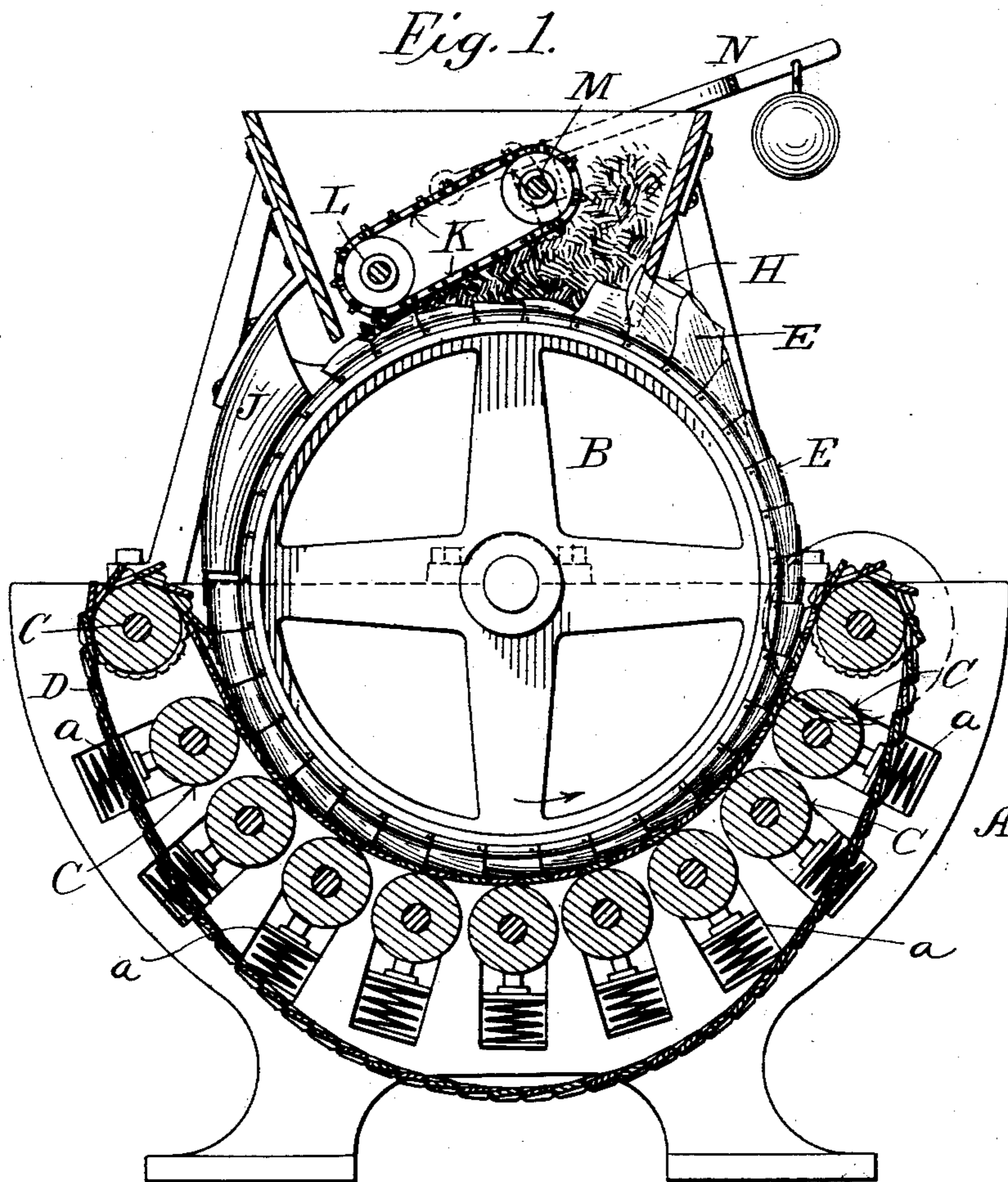
(No Model.)

2 Sheets—Sheet 1.

V. D. ANDERSON.
PRESS.

No. 525,525.

Patented Sept. 4, 1894.



Witnesses
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(No Model.)

V. D. ANDERSON.
PRESS.

2 Sheets—Sheet 2.

No. 525,525.

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Fig. 3.

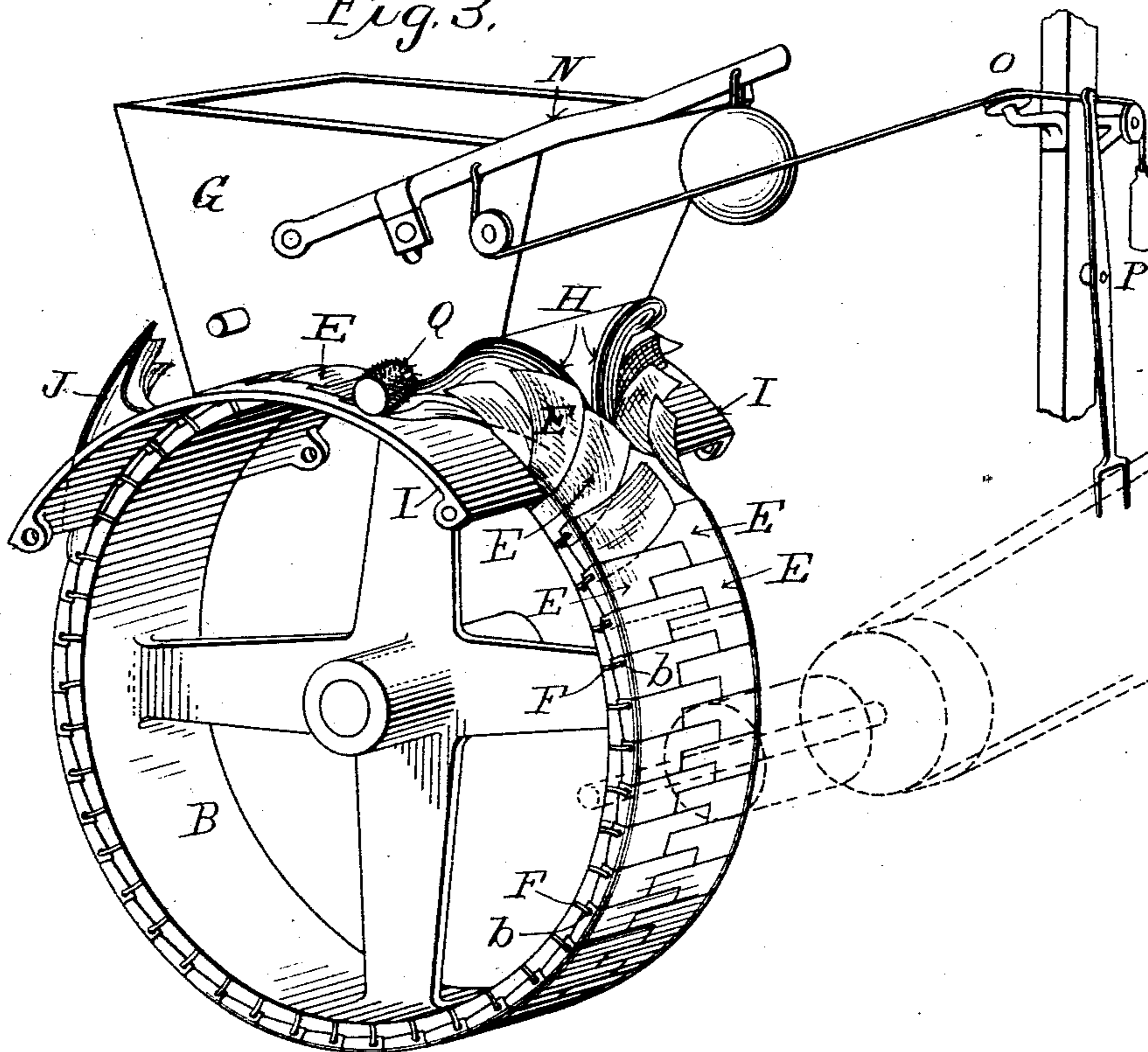


Fig. 4.

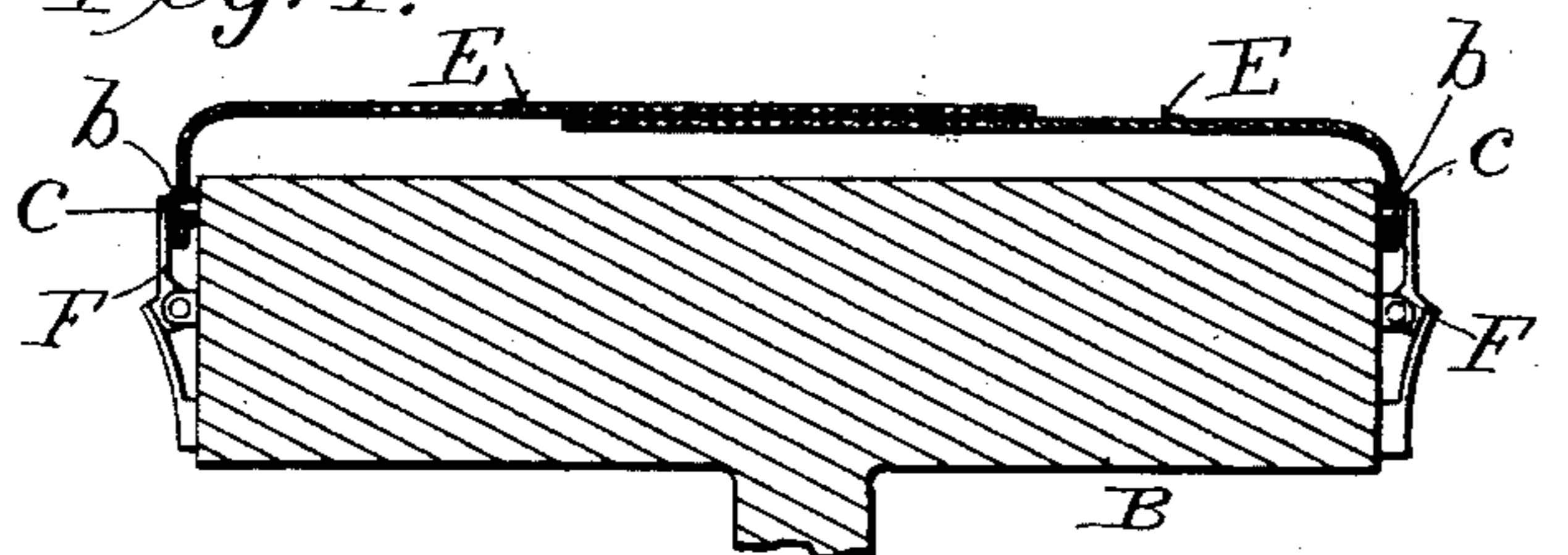
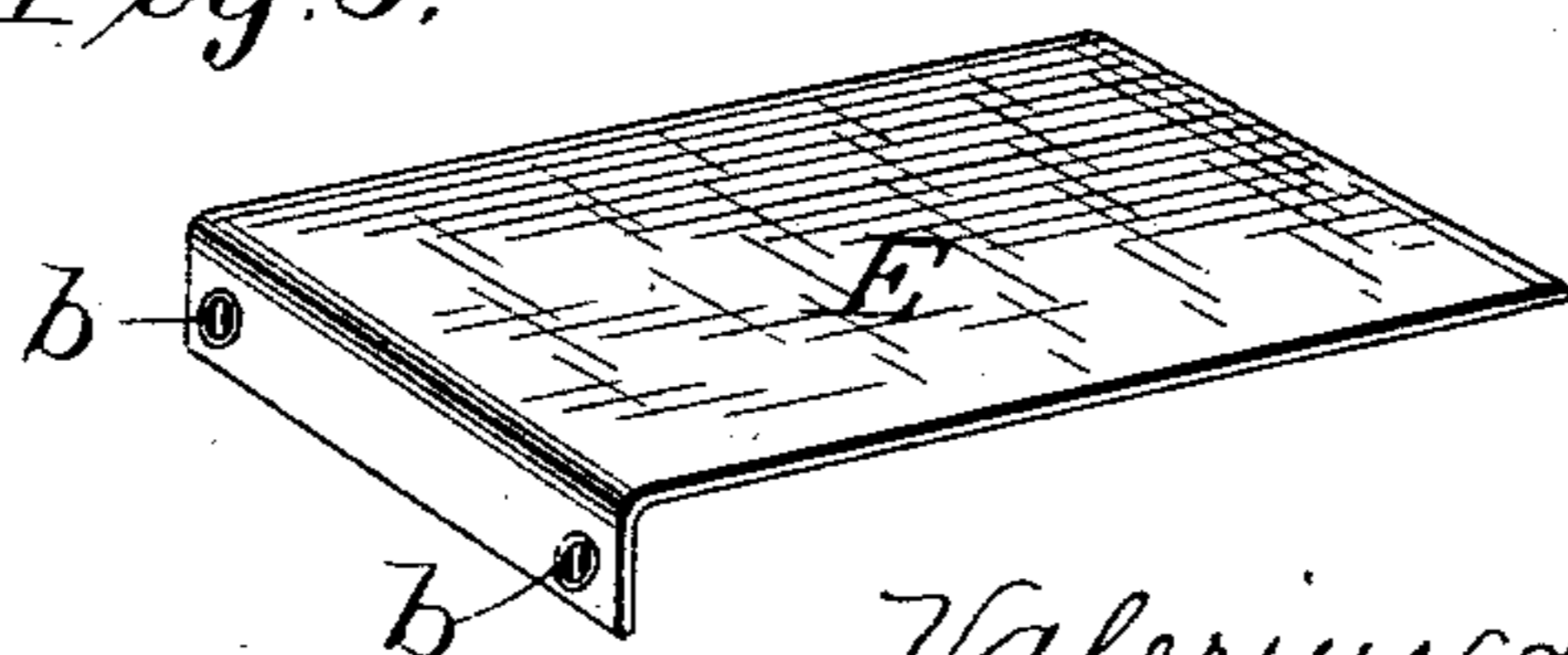


Fig. 5.



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UNITED STATES PATENT OFFICE.

VALERIUS D. ANDERSON, OF CLEVELAND, OHIO.

PRESS.

SPECIFICATION forming part of Letters Patent No. 525,525, dated September 4, 1894.

Application filed May 12, 1894. Serial No. 510,998. (No model.)

To all whom it may concern:

Be it known that I, VALERIUS D. ANDERSON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Presses, of which the following is a specification.

My invention relates to squeezing presses, and is in the nature of an improvement upon that shown and described in Letters Patent No. 474,802, granted to me on the 17th day of May, 1892.

The present invention is primarily directed to the application of cloths or sheets of fibrous or woven material between the material to be squeezed or pressed and the lag chain through which the pressure is applied to said material.

The invention also consists in other features, details and combinations hereinafter set forth, whereby the construction of the press is simplified and its action is improved.

Referring now to the drawings,—Figure 1 is a longitudinal vertical section through the press; Fig. 2, a top plan view; Fig. 3, a perspective view; and Figs. 4 and 5, detail views.

A indicates a heavy frame of iron or other suitable material, in which is mounted a rotatable drum or cylinder B, against which the pressing is done. The frame A is formed with a series of radial guideways *a* to receive sliding blocks or boxes, in which are mounted the journals of rollers C, which rollers are arranged in a semicircular series around the lower half of roller B, as shown in Fig. 1. The manner of mounting and adjusting the rolls C may be the same as in my prior patent above referred to, and need not, therefore, be further described.

In practice the rollers are set gradually nearer the circumference of roller or drum B, so that the material entering at one end of the space between the rollers and the main drum, shall be subjected to an increase in pressure, and be compressed into smaller compass as it traverses through said space.

D indicates a lag chain, which may be of the form shown and described in my prior patent, or of other suitable form, though I have devised a special construction which I find peculiarly advantageous, and which I

shall set forth in a separate application, description thereof being omitted from this case in order that there may be no constructive waiver of right to claim the same in a separate application and patent.

The chain D passes over the tops or upper surfaces of the rollers C and thence downward beneath the rollers in an endless band, the weight of the portion of the chain below the rollers serving to place the portion above the rollers somewhat under tension, or in other words, to act in effect as a belt tightener. By thus placing the chain only at the lower side of the cylinder B, the upper half is left unobstructed by the chain, and convenient space is afforded for the location of the feeding mechanism and other parts.

It has been attempted heretofore to use in connection with a press of this general character, a woven sheet or band of thick material, and such use is highly desirable; but as these presses are mainly used for the treatment of offal and garbage containing many rough, heavy and angular bodies, it results that the cloth is frequently broken. If, therefore, the cloth be in the form of a continuous sheet, as has hitherto been the custom, it is apparent that cutting out at one point destroys the usefulness of the entire cloth, which must be renewed or repaired before the press can again be used. Practical attempts to use such cloths have demonstrated that very great expense is involved in the item of repairs, and that so great delay occurs through puncturing or tearing of the cloth and its replacement, that, commercially speaking, it is not practicable to use them. I overcome these difficulties by making the cloth of a large number of comparatively small sheets or sections E, each secured to one edge of the drum B and arranged to overlap adjoining sections at all its edges; in other words, the cloths are arranged as shown in Fig. 3, those attached to one end or edge of drum B alternating with those proceeding from the opposite end or edge, and those of each end or edge overlapping each other.

To permit the ready application and removal of the cloths they are each provided at one end with two or more eyelets *b*, as shown in Figs. 4 and 5, and the drum is furnished

with a series of projecting studs or pins *c* to receive the eyelets *b* of the cloths. To prevent accidental displacement of the eyelets from the pins *c*, there is provided a series of
 5 spring latches *F*, shown in Fig. 3 and more clearly in Fig. 4. These may be made to cover a single pin each or several pins, as found expedient.

By merely throwing back the latches *F* of
 10 any particular cloth or section, such section is made free to be removed and replaced by another, and being thus made in small sections, the cloth can be cheaply furnished, and the renewal being of but a small portion, is
 15 cheaply effected. It is obvious that other methods of attaching the cloth may be employed if desired.

For the purpose of opening the cloths outward or away from the cylinder or drum *B*,
 20 before passing beneath the supply hopper *G*, so that the material received from the hopper may come directly into contact with the circumference of the drum *B*, I provide a turning guide *H*, consisting of two plates or
 25 sheets of metal similar in form to the mold-board of a plow and meeting in a point on the circumference of the roller midway between its edges as shown in Fig. 3. This guide *H* fits closely to the surface of the
 30 roller, and serves the further purpose of removing therefrom any adhering matter.

I indicate two segmental shelves or ledges designed to receive and support the cloths *E* when the latter are turned outward by the
 35 guide *H*, and while said cloths are passing the hopper *G*. These shelves or ledges *I* are bolted or otherwise made fast to the main frame *A* of the machine, and extend from a point somewhat in advance of the hopper to
 40 a point in rear thereof.

J is a second guide, designed to turn the cloths inward and overlap them upon each other over the material introduced upon the drum *B* from the hopper *G*. This guide *J* is
 45 virtually a reverse arrangement of guide *H*.

As shown in Figs. 1 and 2, the hopper *G* is furnished with an endless feed chain *K*, passing about rollers or sprocket wheels *L* and *M*. This chain is designed to be positively driven
 50 and to crowd or force the material from the hopper downward against the top surface of drum *B* to insure a proper feeding of the machine.

It will be seen upon referring to Fig. 1 that
 55 the roller or wheel *M* is elevated considerably above the roller or wheel *L*, thereby producing a feed inlet or passage between the under side of the chain and the surface of drum *B* of gradually decreasing width from the receiving toward the delivery end, so that the material carried forward by the chain is thus
 60 subjected to a preliminary and gradual squeezing action, and is compelled to pass through the relatively narrow space between the lower end of the chain and the drum. In
 65 this condition the material passes from the hopper upon the surface of the drum, and

immediately after passing out of the hopper it is covered by the cloths *E*, turned inward and overlapped by the guide *J*. 70

As shown in Fig. 1, the guide *J* extends to or nearly to the first of the series of rollers *C*, so that as the cloths with the material beneath them, pass from within the guide *J*, they come into the space between the chains
 75 *D* and the surface of the drum *B* and are prevented by the chain from shifting or changing their position.

The rollers *C* being properly adjusted, and being sustained by springs as shown, exert a
 80 gradual and increasing pressing action upon the material confined beneath and by the cloths, the liquid matters escaping through the cloths while the solid matters are retained within them to be discharged, however, when-
 85 ever arriving at the opening guide *H*.

To guard against accidents to the machinery through too rapid charging or feeding, the shaft of roller or sprocket wheels *M* is arranged to rise and fall subject to the pressure
 90 of a weighted lever *N*, said lever yielding when too great an accumulation of material beneath the chain *K* occurs, or whenever a large bone or other unyielding substance
 95 passes between the drum *B* and the chain *K*. From the lever *N* a rope *O* or other connecting device passes to a belt shifter *P*, by which the driven belt is shifted or thrown off, and the operation of the machine is promptly
 100 stopped.

For the purpose of cleaning cloths *E*, I provide at each side of the hopper a rotary brush *Q*, (one or more,) the shaft of which will be connected by suitable gearing with the
 105 shaft of drum *B* or other moving part, for the purpose of imparting rotary motion to the brush.

One roller *C* of the series, preferably the last, is provided with sprocket wheels to impart motion to chain *D*, and motion is transmitted to the drum *B* only through the medium
 110 of the material being squeezed or pressed and lying between the drum and the chain.

It is manifest that various of the details may be modified without departing from the
 115 spirit of the invention, the most important feature of which is the employment of sectional cloths instead of a continuous sheet or apron, as has heretofore been the custom. The employment of such sectional or divided
 120 overlapping cloths I mean to claim broadly and without regard to the special manner of attaching and removing the same, and without reference to the materials of which they
 125 are made.

Having thus described my invention, what I claim is—

1. In a press, the combination of a drum or cylinder, a series of rollers arranged about said cylinder, a lag chain traveling between
 130 the rollers and the cylinder, and a series of independent cloth sections interposed between the cylinder and the chain and arranged to overlap one another at their sides and ends

substantially as set forth, to form a continuous covering for the material being pressed.

2. In a press, the combination with the main cylinder or drum, of a series of cloths E attached to said drum and arranged to overlap each other.

3. In a press of the character shown and described, a drum B provided with pins or studs c, and a series of cloths E provided with eyelets b to fit upon the pins or studs c.

4. In combination with drum B provided with pins c, cloths E provided with eyelets b and latches F adapted to close over the pins and retain the cloths in place.

5. In a press, the combination of a rotatable drum or cylinder, cloths connected to opposite ends of the drum or cylinder and extending inward toward each other, and a fixed guide adapted to enter between the cloths and the drum or cylinder and to turn the cloths outward therefrom.

6. In combination with a drum or cylinder, and with cloths attached to opposite edges thereof and extending inward toward each other, a guide or folder adapted to turn the cloths inward and lay them upon the face of the drum or cylinder.

7. The herein-described press, consisting of

the following elements in combination: a main frame, a rotatable drum or cylinder mounted therein and provided with cloths E, a feed hopper G, an opening guide H, and folding guide J for turning the cloths inward, a series of rollers C arranged about the drum or cylinder, and a lag chain passing between the drum or cylinder and the roller, all substantially as shown and described.

8. In combination with drum or cylinder B provided with cloths E, opening guide H for turning the cloths outward, shelves or ledges I to support the cloths while thus turned outward, and inturning guide J for folding the cloths upon the cylinder, all substantially as shown.

9. In combination with drum or cylinder B having cloths E, opening guide H, shelves or ledges I, and brushes Q adapted to act upon and clean the cloths while lying upon said shelves or ledges.

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

VALERIUS D. ANDERSON.

Witnesses:

A. D. ANDERSON

WM. H. DE WITT.