

(No Model.)

V. D. ANDERSON.
PRESS.

No. 474,802.

Patented May 17, 1892.

Fig. 1.

Fig. 4.

Fig. 5.

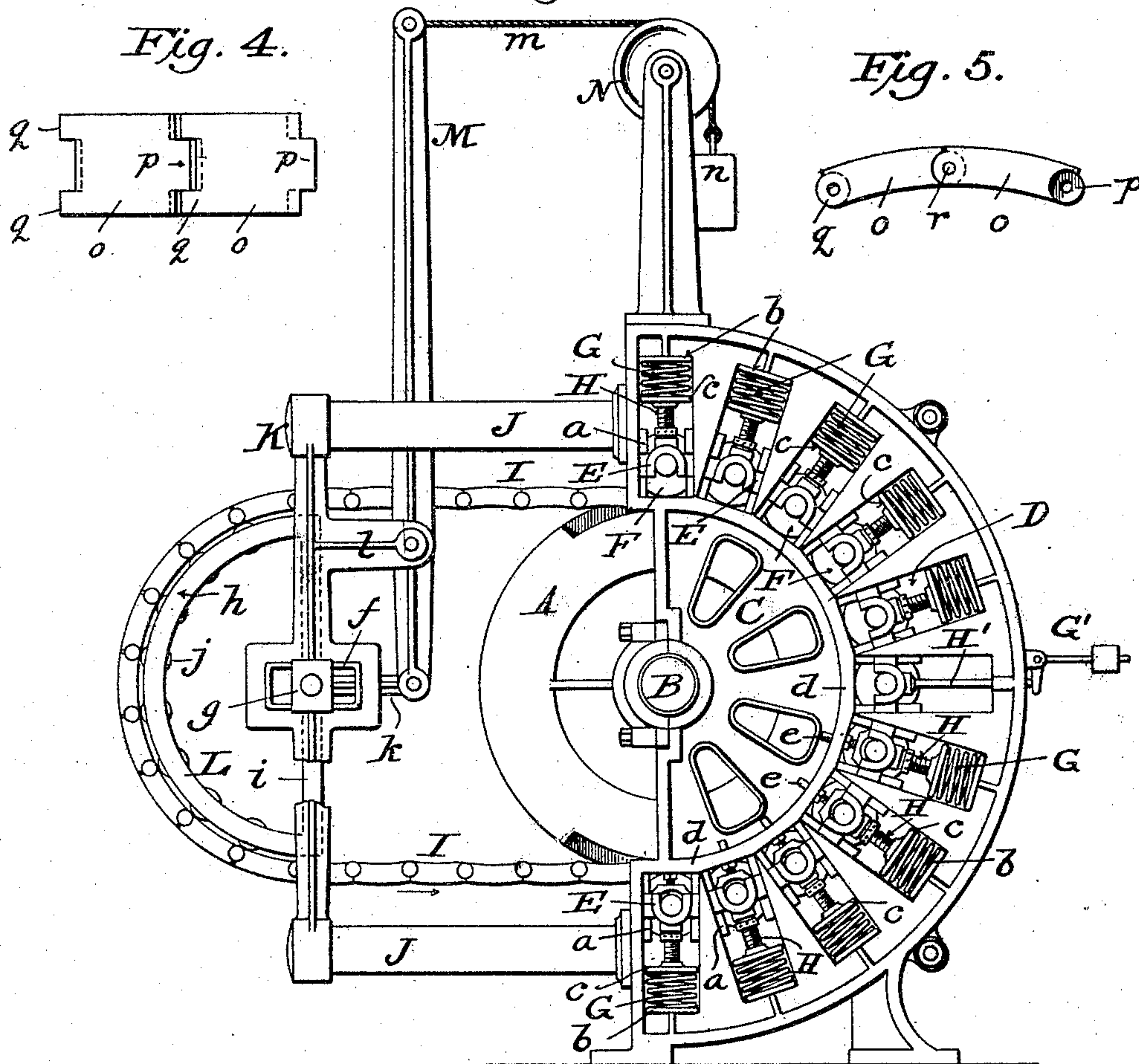


Fig. 2.

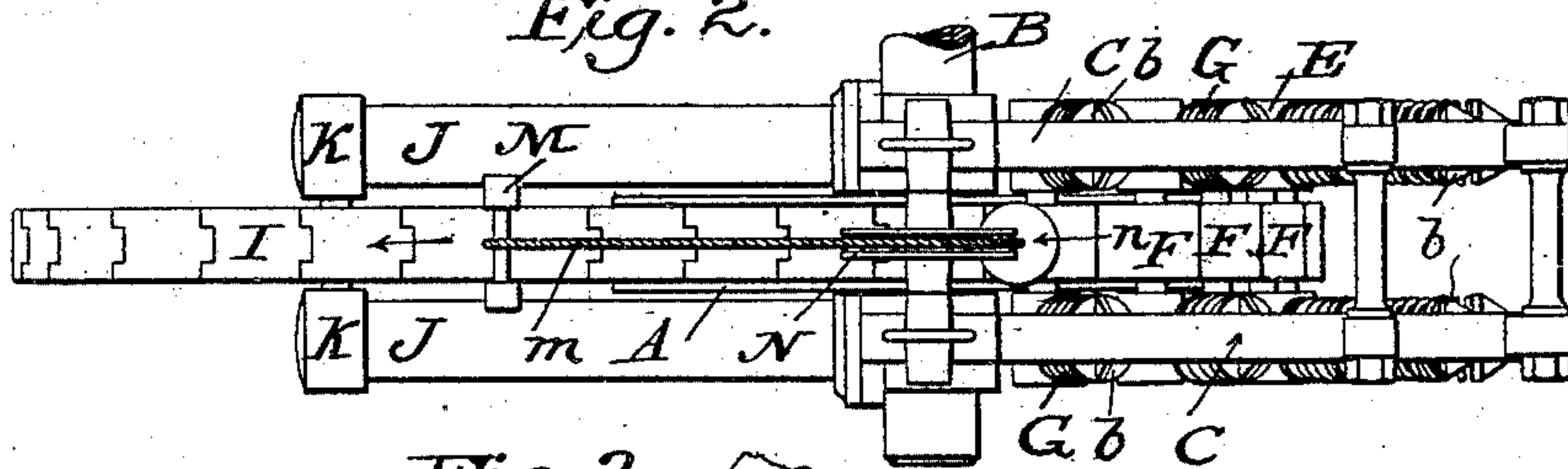
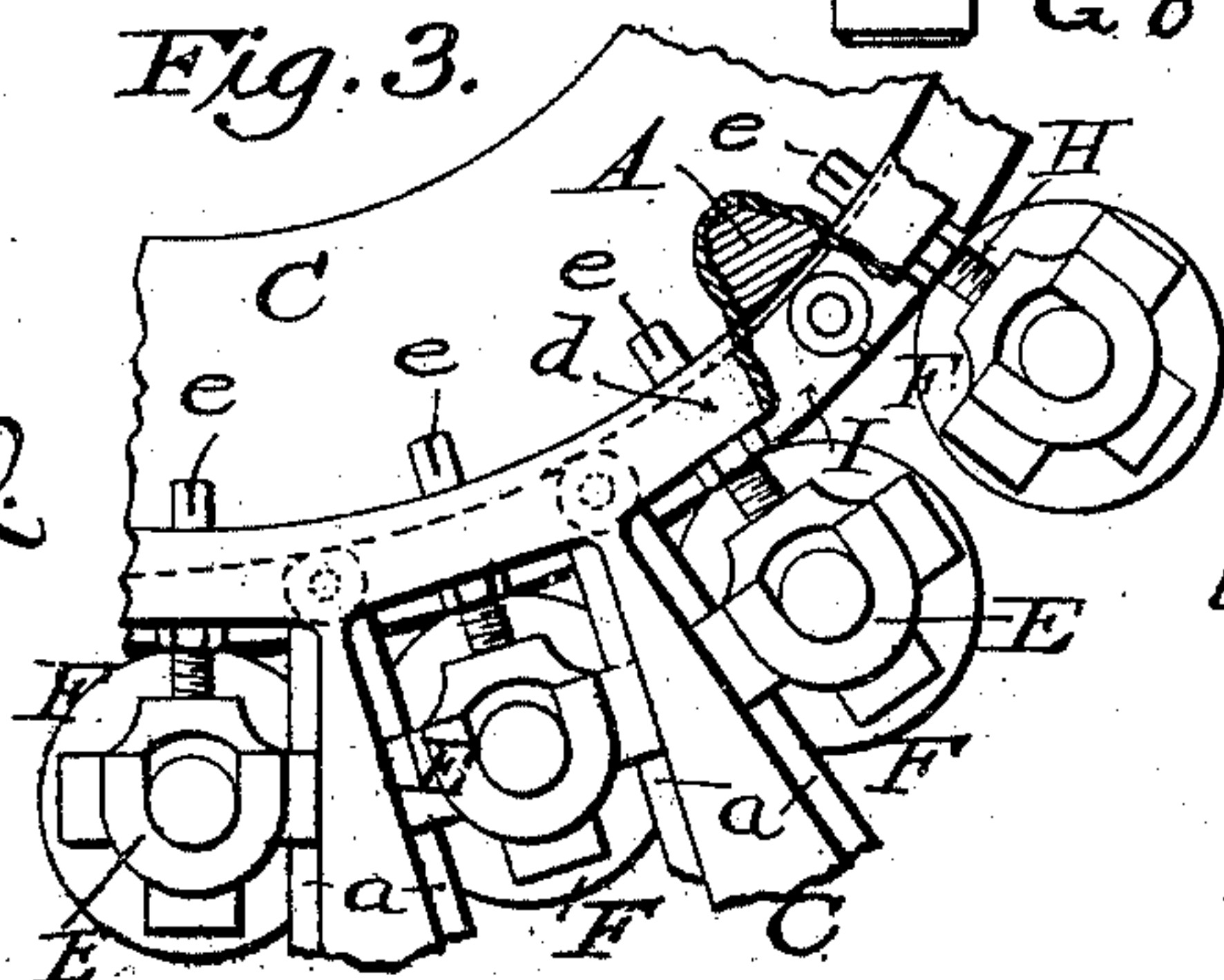


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

VALERIUS D. ANDERSON, OF CLEVELAND, OHIO.

PRESS.

SPECIFICATION forming part of Letters Patent No. 474,802, dated May 17, 1892.

Application filed November 28, 1891. Serial No. 413,428. (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 presses; and it consists in various features, details, and combinations hereinafter set forth and claimed.

In the drawings, Figure 1 is a face view of my improved machine; Fig. 2, a top plan view; Fig. 3, a side view, partly in section and on a larger scale, of the drum or cylinder and the pressure-rollers; and Figs. 4 and 5, views illustrating the construction of the lag-chain.

A indicates a drum or cylinder, preferably flanged, mounted upon a shaft B, which latter is journaled in the main frame of the machine. This main frame comprises two semi-circular plates C, suitably connected to each other and having a series of radial slots or openings D, which have on their side walls guiding ribs or flanges *a*, as shown in Fig. 1, and mounted in these openings and guided in their movements by the ribs are suitably-formed blocks or cross-heads E, which carry the pressure-rollers F. The desired pressure is secured by means of powerful springs G, (exerting a pressure of several tons), which bear at one end against plates or caps *b* at the outer ends of the slots and at their inner ends against similar plates or caps *c*, carried by large and heavy screws H, which latter are supported at their inner ends by the cross-heads E, into which they screw. Of course, by turning the screws the action of the spring may be varied and a greater or less degree of pressure applied to the material passing between the rollers and the drum, or, more properly speaking, to the material between the drum and the lag-chain I, which runs in contact with the rollers.

In lieu of the springs and screw a weighted lever G' and rod H' may be employed, as also represented in Fig. 1.

The side plates C are provided with a lateral flange *d*, Figs. 1 and 3, through which passes a series of adjustable stops *e*, which for convenience may be made in the form of screws passing through threaded holes in the

flange and bearing at their outer ends against the inner or under face of the cross-heads, these stops serving to limit the approach of certain of the rollers toward the drum, for a purpose presently explained.

Projecting from main portion of the frame in which the drum is journaled are four arms J, arranged in pairs and connected by the upright bars K, as shown in Fig. 1. These bars K are each formed with an enlarged portion at or about the center, in which is formed an elongated way or opening *f*, to receive the blocks *g* of a supporting-frame L for the lag-chain I. This frame L comprises a semicircular portion *h*, curved on the arc of a circle of the same diameter as the drum, arms *i*, extending from the ends of curved portion *h* to the blocks *g*, and rollers *j*, which are journaled in the curved portion to receive the lag-chain.

M indicates an upright lever connected at its lower end with the frame L by a rod *k* and pivoted at a point between its ends to an arm *l*, projecting from the connecting-bar K, while to the upper end of the lever there is attached a cord or connection *m*, which passes over a sheave or pulley N at the upper end of a pair of uprights secured to the main frame. A weight *n* at the end of the connection *m* tends to urge the frame L away from the drum or cylinder A.

The lag-chain I comprises a series of lags *o*, curved on their inner and outer faces, as shown in Figs. 1, 3, and 5, to conform to the curvature of the drum or cylinder. Each of the lags is provided at one end with a central tongue *p* to enter between corresponding arms *q* at the opposite end, the arms and the tongue being each perforated to receive a connecting pin or rivet *r*. It will be noticed upon reference to Figs. 1, 3, and 5 that the arms and tongue are slightly undercut and that the pivot connecting the lags is placed comparatively near the inner face of the chain, so that there shall be no projections of any kind upon the outer face to interfere with the smooth and proper action of the pressure-rollers thereon. The opening between the lags (shown in Fig. 4) will be closed up as the chain passes from the drum onto the frame L, the chain sagging slightly and thereby bringing the squared ends of the lags against each other and rendering the chain self-supporting

in a degree. The material is fed onto the upper face of the lower portion of the chain close to the drum, and in order to insure the proper entrance of the material into the space
 5 between the drum and chain I so adjust the screws or stops *e* as to preclude the rollers from pressing hard upon the chain until the material has well entered. It will be seen upon
 10 reference to Fig. 3 that the five lower rollers are so adjusted relatively to the drum or the lag-chain by means of these stops or screws that there is no pressure of any consequence exerted until the material reaches the upgo-
 15 ing side of the drum or a point at about opposite the fifth roller from the bottom. The lowermost roller is set farther away from the drum than any of the others and the succeeding rollers are set gradually closer to the drum, so that the space between the drum and the
 20 chain shall assume the form of a wedge, thereby forming a tapering channel, into which the material may be gradually fed without any tendency to choke up. This is specially important in pressing garbage and like ma-
 25 terials containing large quantities of foreign matters, which require a large feed-opening. In lieu of this, however, the same effect may be secured by using a series of springs gradu-
 30 ally increasing in strength or pressure from the feed to the discharge.

The machine herein described and shown is particularly well adapted for pressing garbage, oleo, and similar slippery greasy mat-
 35 ters.

The devices for supplying and removing the material may be arranged as shown in my patent, No. 464,600, dated December 8, 1891, and form no part of the present invention. So,
 40 too, the drum or cylinder may be heated, as in my prior patent above referred to, if desired.

Having thus described my invention, what I claim is—

1. In a press, the combination, with a drum
 45 or cylinder, of a lag-chain passing therearound and adapted to hold the underlying material against the outer face of the drum, and a series of rollers bearing against the back of the lag-chain throughout its contact with the drum
 50 and adjustable toward and from the drum, and a yielding-pressure mechanism for the rollers.

2. In a press, the combination, with a main

frame, of a drum A, journaled therein, a lag-chain I, passing therearound and adapted to
 55 hold the underlying material against the outer face of the drum, a series of pressure-rollers F, journaled in sliding bearings E and adapted to bear upon the chain, adjusting mechanism substantially such as shown for the rollers,
 60 whereby they are set away from the chain at the upgoing side of the drum to form a gradually-contracted throat or feed-opening, and a yielding-pressure mechanism for the rollers.

3. In a press, the combination, with a drum
 65 or cylinder and the lag-chain passing therearound, of the frame C, having the radial openings D, the cross-heads and rollers mounted therein, the adjustable stops *e* for limiting the inward movement of the rollers and cross-
 70 heads, and means tending to urge the latter inward.

4. In a press, the combination, with a main frame, of a drum A, journaled therein, a semi-circular non-rotating supporting-frame L of
 75 approximately the same diameter as the drum, a lag-chain passing about the drum and frame, and a weighted lever connected with the frame and tending to urge it away from the drum, and thereby keep the chain taut, all substan-
 80 tially as shown and described.

5. In combination with a main frame and the drum mounted therein, arms J, projecting from the main frame, bars K, connecting the arms and provided with arms *l* and ways *f*,
 85 frame L, provided with blocks *g*, supported in the ways, a weighted lever M, pivoted to arm *l* and connected with the frame by rod *k*, and a lag-chain passing about frame L and the drum.
 90

6. In a press, the combination, with a main frame having the separated plates C, provided with radial openings D, of boxes or bearings E, mounted within the openings, rollers F, jour-
 95 naled in the boxes, stops or screws *e* at the inner ends of the openings, screws H and springs G at their outer ends, a drum, and a lag-chain passing between the drum and rollers, all substantially as shown and described.

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

VALERIUS D. ANDERSON.

Witnesses:

WM. H. DEWITT,
 HATTIE HUNT.