

(No Model.)

2 Sheets—Sheet 1.

W. W. SEELEY.

BALING PRESS.

No. 374,207.

Patented Dec. 6, 1887.

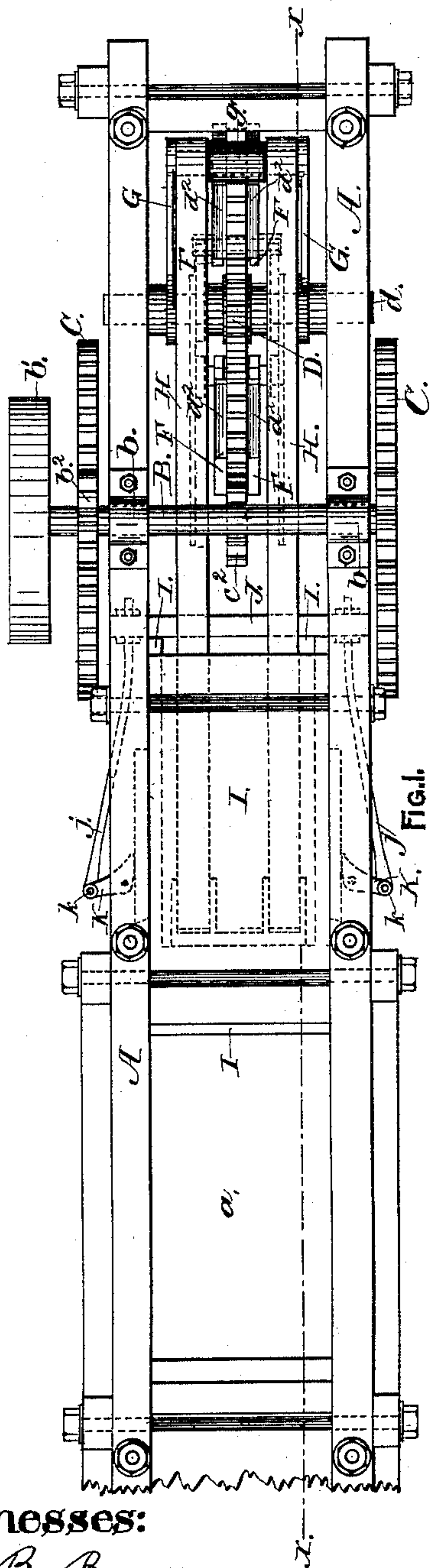


Fig. 1.

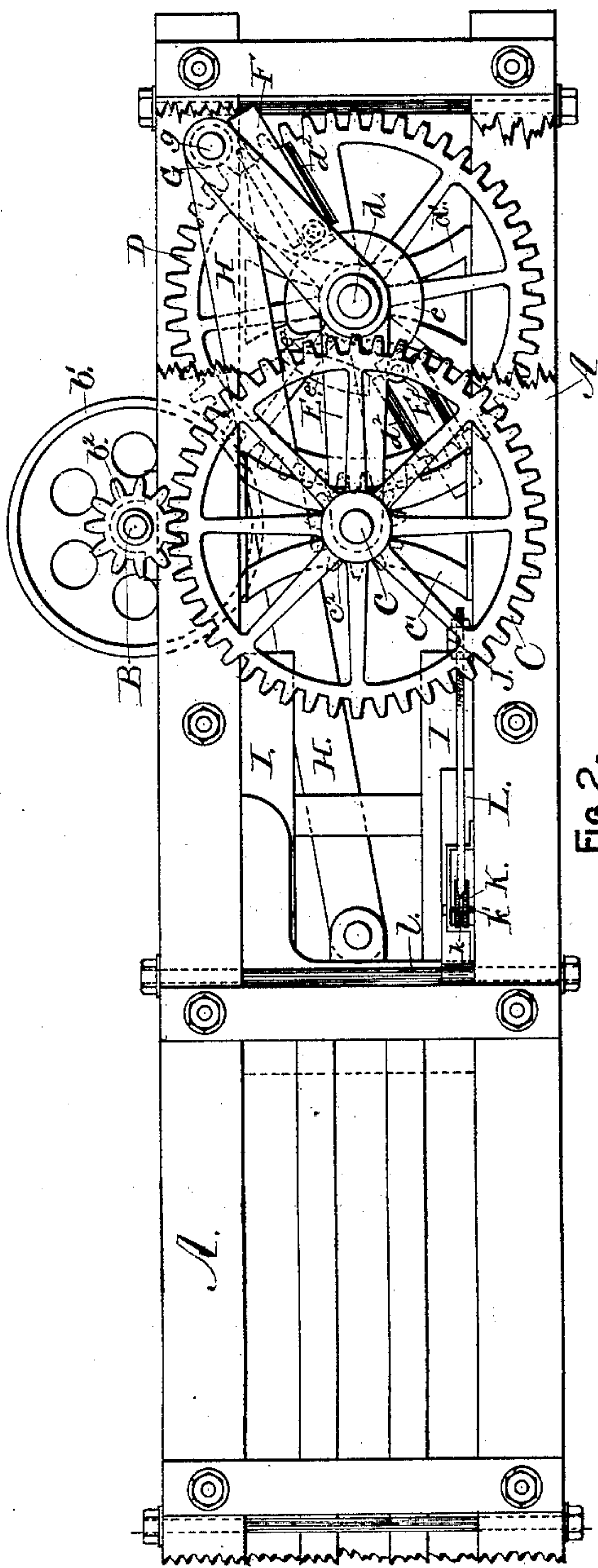


Fig. 2.

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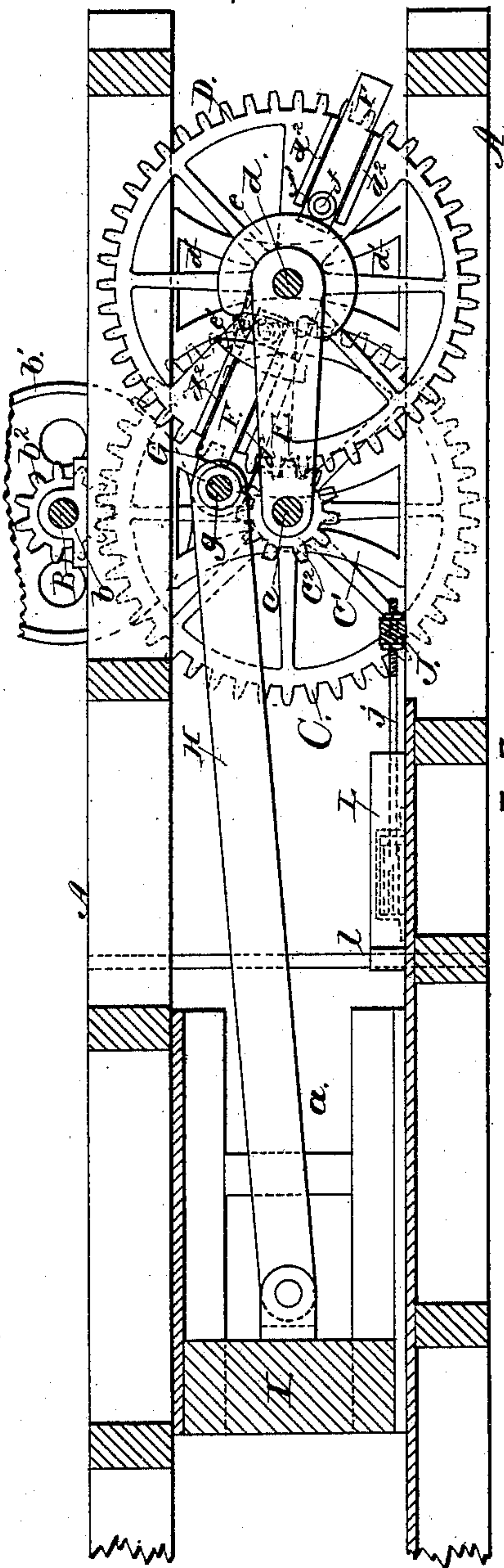


FIG. 3.

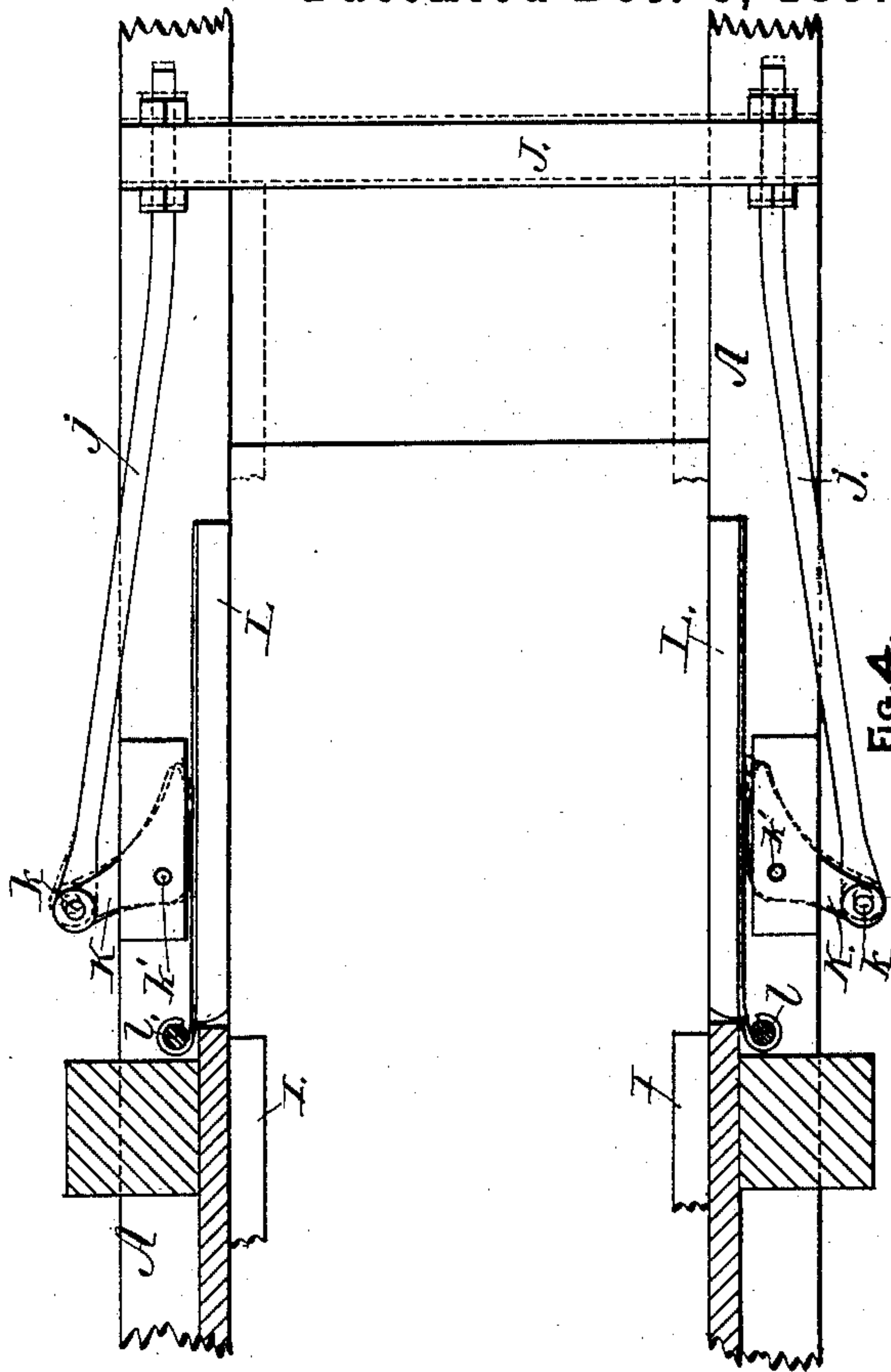


FIG. 4.

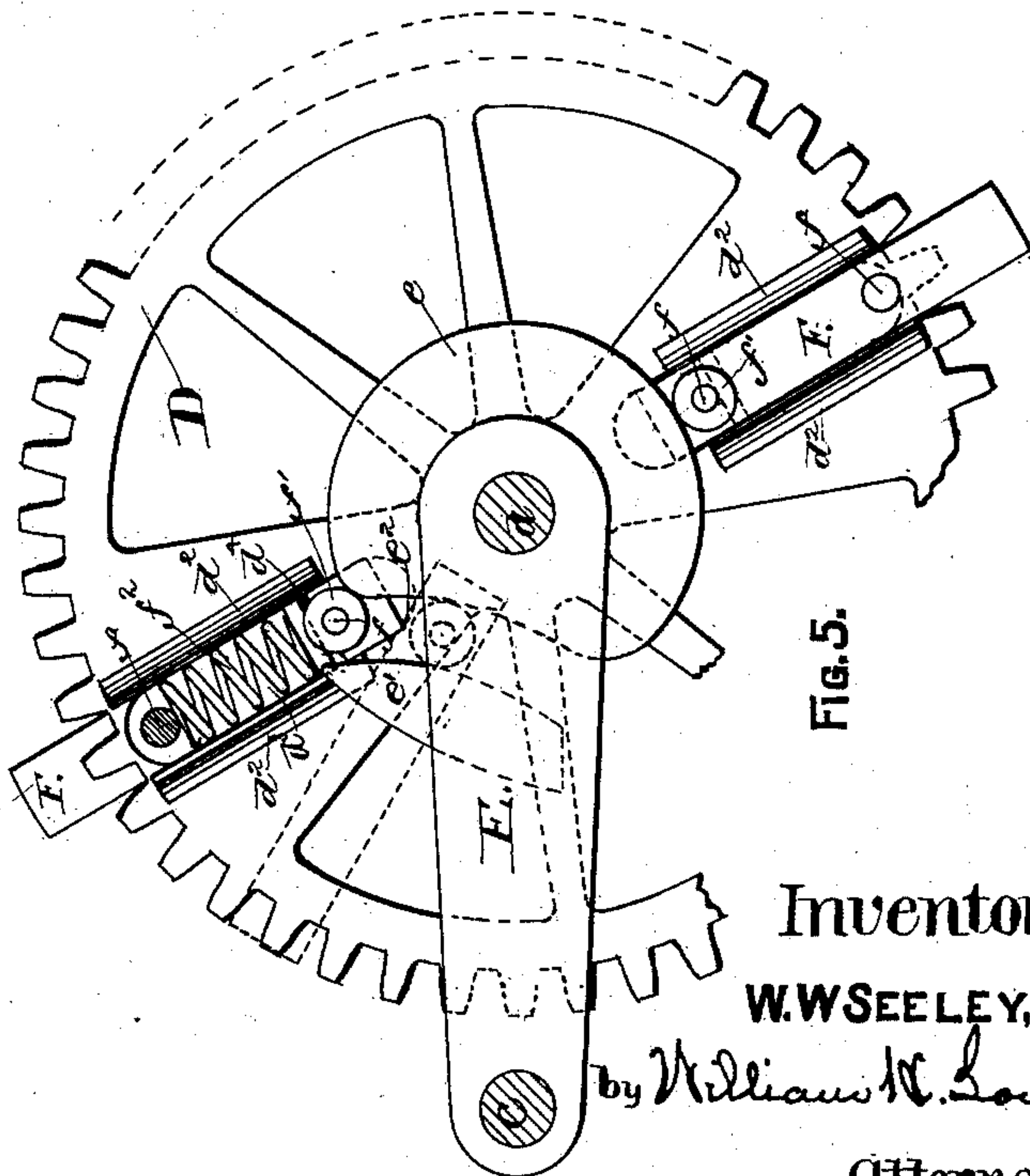


FIG. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM W. SEELEY, OF ALBANY, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 374,207, dated December 6, 1887.

Application filed January 3, 1887. Serial No. 223,240. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. SEELEY, of the city and county of Albany, in the State of New York, have invented new and useful
5 Improvements in Baling-Presses, of which the following is a specification.

My invention relates to improvements in that class of baling-presses in which a steam-engine or other motive power is employed for im-
10 parting a rotatory motion to the driving-shaft of the press; and it consists of the novel combination of parts herein described.

In the accompanying drawings, which are herein referred to and form part of this specifi-
15 cation, Figure 1 is a plan view of the power end of my baling-press; Fig. 2, a side elevation of same, with parts of the framing broken away to show underlying parts; Fig. 3, a longitudinal section of Fig. 1 at the line X X;
20 Fig. 4, an enlarged horizontal section of part of the frame-work of the press, showing a plan view of the plunger-clamping device; and Fig. 5, an enlarged side elevation of part of the cam-wheel for operating the press-plunger.

25 As represented in the drawings, A is the frame-work of the press, of which only the parts affected by my invention are shown; B, a driving-shaft fitted to rotate in the boxes *b*, and provided with a pulley, *b'*, or other ap-
30 pliance through which motion derived from a suitable motive power can be imparted to said shaft. The shaft B is also provided with a pair of pinions, *b²*, which engage with the gear-wheels C, that are secured to a shaft, *c*,
35 journaled in the brackets *c'*. A pinion, *c²*, secured to the shaft *c*, engages with a gear-wheel, D, that is secured to the shaft *d*, having journals in the brackets *d'*. The shafts *c* and *d* are yoked together by the stationary stay-bars E,
40 having eyes at each end, in which said shafts are free to rotate, and by means of said stay-bars the shaft *d* is supported to withstand the transverse strain to which it is subjected. The wheel D is provided at both sides, at diametrically-
45 opposite points, with sliding arms F, which are fitted to move in snugs *d²*, formed on said wheel. Each pair of said sliding arms, on the opposite faces of said wheel, are fastened together by the rivets *f*, so as to move as one
50 piece, and the outer ends of the innermost rivets are provided with friction-rollers *f'*, for a purpose hereinafter explained. Springs *f²*

may be employed for the purpose of forcing the sliding arms F to extend outward beyond the perimeter of the teeth of the gear-wheel 55 D; and when so employed said springs are preferably inserted in recesses *d³*, where one end will rest against an abutment, *d⁴*, and the opposite end will exert pressure against one of the rivets *f*. The sliding arms F derive 60 their required movements from stationary cams *e* and *e'*, attached to the stay-bars E. The major part of each cam *e* is concentric with the center of the shaft *d*, and while the friction-rollers *f'* are passing over the said con- 65 centric part of the cams *e* the sliding arms F will remain in their projected positions, as shown in Fig. 2. The opposite side of both cams *e* is cut away to form, in conjunction with the cams *e'*, curved grooves *e²*, which bend in- 70 wardly toward the shaft *d*, so that when the friction-rollers *f'* are passing through said grooves the pair of sliding arms F, to which said rollers are attached, will first be moved inwardly, so that their outer ends will not pro- 75 ject beyond the points of the teeth of the wheel, and then forced outwardly into their projected positions, hereinabove referred to. Near the ends of the shaft *d* two cranks, G, are loosely fitted so as to swing freely on said shaft, so 80 that the crank-pin *g*, which is secured in both of said cranks, will pass through an arc of about one hundred and twenty degrees, the travel of said crank-pin being above the shaft *d*. The crank-pin *g* is preferably provided 85 with a friction-sleeve, *g'*, which is fitted to rotate on said pin between the pitmen H, and with which the sliding arms F engage. Two pitmen H are connected at one end to the crank-pin *g*, and at the opposite end to the 90 reciprocating plunger I. Said pitmen are arranged at opposite sides of the gear-wheel D, and they form one part of a toggle-joint of which the cranks G are the complement. The plunger I is fitted to slide in the pressing- 95 chamber *a* of the press with sufficient freedom to permit the resilient action of the compressed material to cause said plunger to rebound toward the shaft *d*; and in order to prevent this rebounding movement of said plunger from 100 being carried too far a movable cross-bar, J, is arranged across the lower part of the press-frame, near the point where the rebounding movement of the plunger should terminate,

and where the said plunger will strike it before the termination of said movement. Rods *j* are attached to each end of the cross-bar *J*, and are jointed, as at *k*, to wipers *K*, which are 5 pivoted, as at *k'*, to the sill-pieces of the press-frame. Clamps *L* are hinged at *l* to each side of the press-frame, in such position that by a slight movement they can be brought into frictional contact with opposite sides of the plunger *I*. 10

The operation of my press is as follows: The plunger *I* being at the outermost point of its stroke, as shown in Fig. 2, and the driving-shaft *B* being continuously rotated to impart, 15 through the train of intermediate gears, the required motion to the wheel *D*, which rotates in the direction indicated by the arrow in Fig. 1, as the pair of sliding arms at the part of the wheel *D*, then at the rearmost end of the press, 20 are carried upward by said wheel, they are brought into engagement with the crank-pin *g*, and by the continued motion of the wheel *D* the cranks *G* and pitmen *H* are moved to force the plunger *I* inwardly to compress the material in the pressing-chamber *a*. The engagement of the sliding arms *F* with the crank-pin *g* continues until the crank-pin has nearly reached the level of the center of the shaft *d*, or in the position shown in Fig. 3. When this 30 point has been reached, the sliding arms *F* will have been retracted by the friction-rollers *f'* entering the grooves *e'*, thereby freeing the crank-pin *g* from said sliding arms. Thereupon the resilience of the compressed material will 35 cause the plunger *I* to rebound toward the rearmost end of the press, thereby restoring the cranks *G* and pitmen *H* to their normal positions, as shown in Fig. 2, where they will be ready for a re-engagement with the next pair 40 of sliding arms as they are brought around by the rotations of the wheel *D*. As the plunger *I*

nearly reaches the termination of its rebounding movement, it will encounter the cross-bar *J*, and will force the cross-bar slightly back, as indicated by dotted lines in Fig. 4, and thereby 45 the wipers *K* will be swung inwardly to move the clamps *L* to pinch against opposite sides of the plunger *I*, and thereby the rebounding of the latter will be effectually stopped.

As shown in the drawings, the wheel *D* is 50 provided with two pairs of the sliding arms *F*; but, when preferred, either a greater or lesser number of pairs of said arms may be employed, and thereby a more or less frequent movement of the plunger *I* will be produced by a given 55 number of revolutions of the wheel *D*.

I claim as my invention—

1. In a baling-press, the combination, with a wheel, *D*, provided with sliding arms *F*, of the swinging cranks *G* and their connecting-pin *g*, and the pitmen *H*, connected to said cranks by the crank-pin *g*, the said sliding arms alternately engaging and disengaging with said crank-pin, as and for the purpose 65 herein specified.

2. In a baling-press, the combination, with a wheel, *D*, provided with sliding arms *F*, and the stationary cams *e* and *e'*, the said sliding arms being moved inwardly and outwardly by means of said stationary cams, as herein described, of the swinging cranks *G*, connected 70 together by the crank-pin *g*, loosely fitted on the shaft *d*, and the pitmen *H*, connected to said cranks by means of the crank-pin *g*, the said sliding arms alternately engaging and disengaging with said crank-pin, as and for the 75 purpose herein specified.

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