

(No Model.)

2 Sheets—Sheet 1.

N. P. SLATE.

BALING PRESS.

No. 430,490.

Patented June 17, 1890.

Fig 1

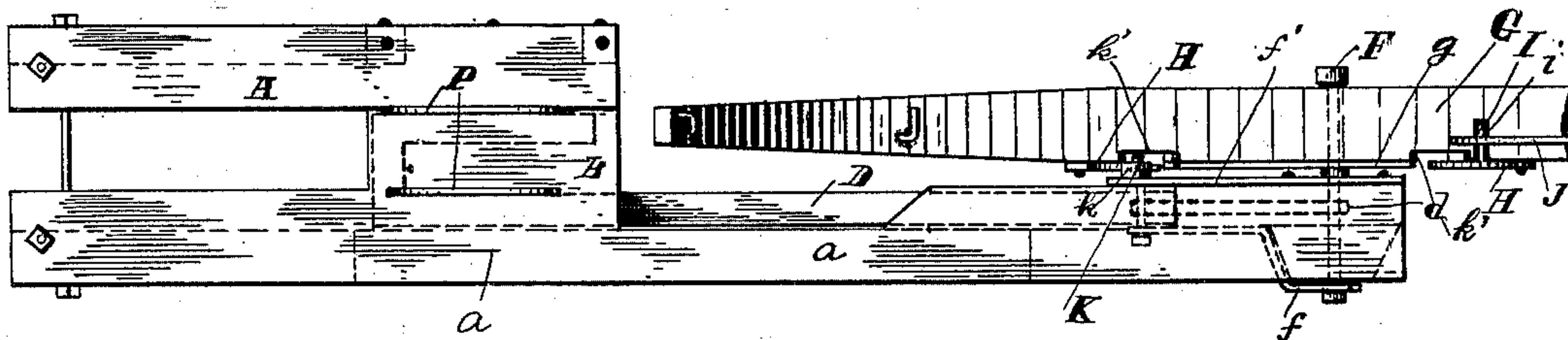
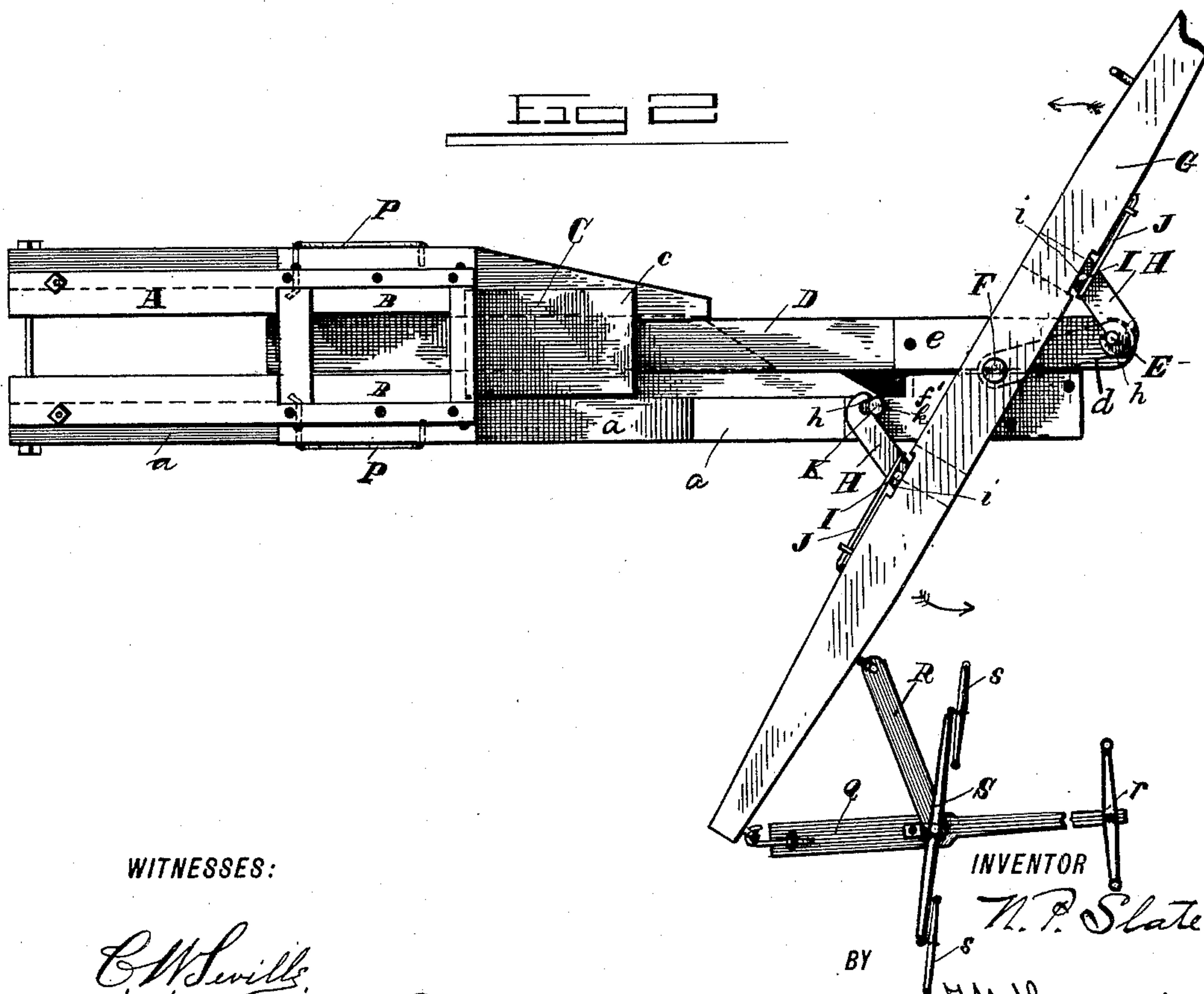


Fig 2



WITNESSES:

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Arthur E. Towell.

INVENTOR

N. P. Slate

BY

W. Alexander

ATTORNEY.

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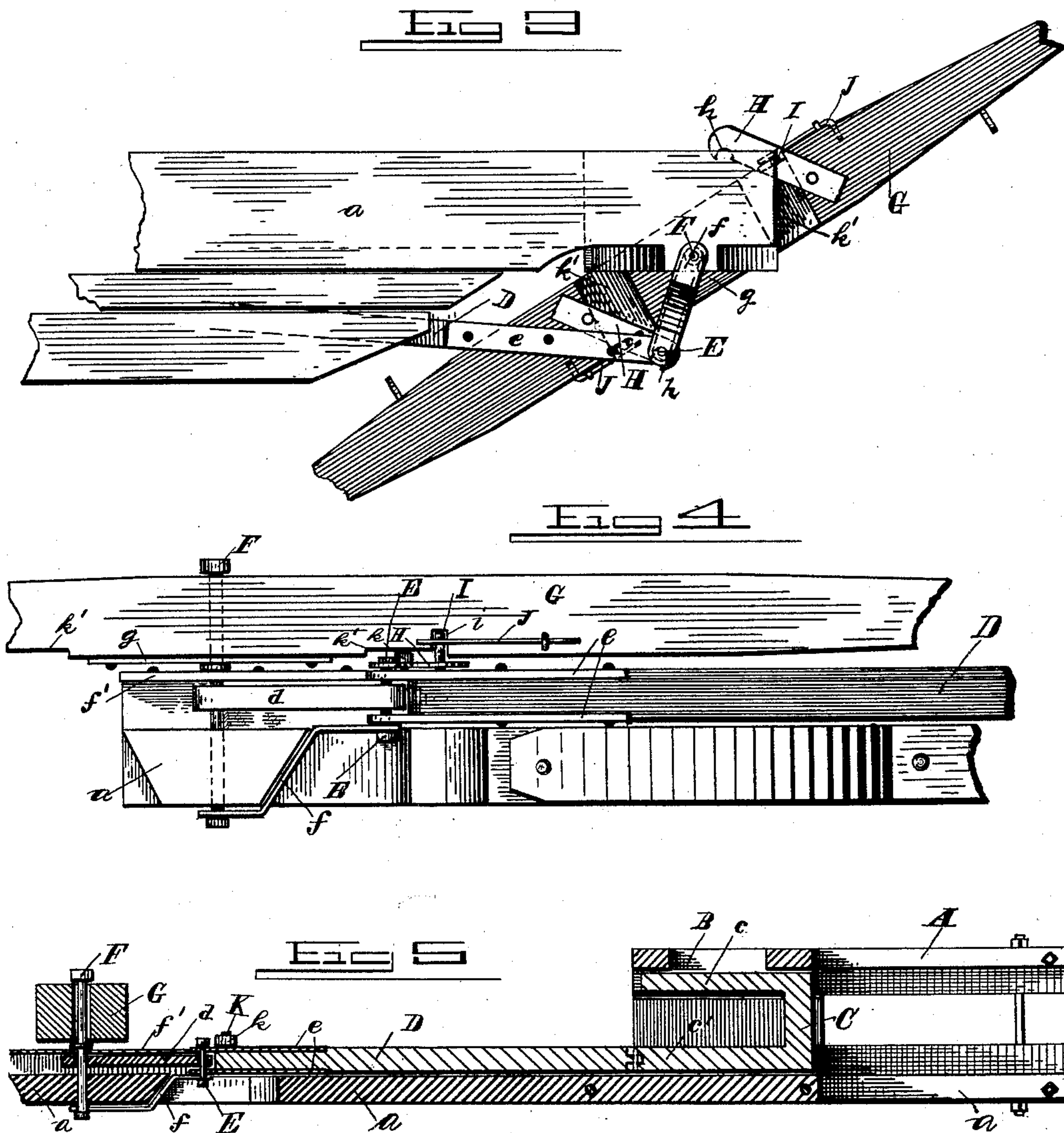
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UNITED STATES PATENT OFFICE.

NATHANIEL P. SLATE, OF TANGENT, OREGON.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 430,490, dated June 17, 1890.

Application filed February 7, 1890. Serial No. 339,563. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL P. SLATE, of Tangent, in the county of Linn and State of Oregon, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side elevation of my improved baling-press. Fig. 2 is a top plan view thereof. Fig. 3 is a detail bottom plan view of the plunger-operating mechanism. Fig. 4 is a detail side elevation of this mechanism. Fig. 5 is a vertical longitudinal section of the press.

This invention is an improvement in baling-presses for cotton, hay, &c., in which a rebounding plunger is employed; and it consists, essentially, in novel devices mounted on a revoluble lever for automatically engaging a pitman, operating the plunger to force the same inward as the lever is revolved, and in other novel details of construction and combination of parts hereinafter described and claimed.

Referring to the drawings by letters, A designates the baling-box, of any suitable construction, and mounted on a suitable base or support *a*. At the inner end of said box is the feed-box B, closed at its bottom and sides, but open at its ends and top, so that it can be filled with the material to be compressed therethrough. C designates a plunger in said feed-box, which plunger has a top rearwardly-projecting portion *c*, that closes the opening in the top of the feed-box when the plunger is moved inward, and prevents material falling into the box behind the plunger, and a bottom rearwardly-extending portion *c'*, which is connected to the end of a pitman D. The front end of pitman D is connected by a link *d* to a vertical bolt F, passing through the end of base *a*, opposite box A, as shown, and *f* is a similar bent link connected to pitman D and to the bolt F below base *a*. By these links the movement of the pitman and consequent reciprocation of plunger C is regulated. The head of pitman D is provided with upper and lower metallic plates *e e*, through which

passes the bolt E that connects links *d* and *f* thereto, and the upper end or head of said bolt projects above the upper plate *e*. The upper face of base *a* is also protected by a metallic plate *f'*, through which bolt F passes.

G designates a revoluble lever centrally pivoted on bolt F, and having a metallic plate *g* on its lower face opposed to plate *f'* of base *a*. Washers may be placed on bolt F between the plates *f'* *g*, if desired, to prevent frictional contact thereof.

H H designate metallic dogs or hooks pivotally secured by one end to the lower face of lever G on each side of the center thereof, and projecting from beneath the same at opposite sides, as shown, the outer ends of said dogs being turned inward or hooked, as at *h*.

I designates an upstanding pin attached to each dog and resting in vertical notches *i i*, formed in the sides of lever G, by which pins the hooks are kept from turning beneath the lever, and J J are spring-rods confined at one end to the sides of the lever and bearing against the pins I I, so as to hold the dogs normally in one position with respect to the lever. The hooked ends of these dogs are equidistant from the bolt F, and the links *f f* are of such length that bolt E is just as far distant from the bolt F as are the hooks, so that if a circle were drawn having the bolt F as its center, and its periphery struck through bolt E, it would also pass through the hooked ends of dogs H. The hooks *h* lie in the same plane as the upper end of bolt E, and hence when the lever is revolved in the proper direction the hooks H H alternately catch the head of pin E and move the same until the pitman-rod has been forced inward toward box B as far as links *d f* will permit.

In order to prevent injury to the dogs it is necessary to disengage them from the pin E automatically, and this is done by means of a stud K, projecting from the face of base *a* and plate thereon, at such a point that just as the pitman is drawn into a position exactly parallel with and above base *a*, the edge of the dog H, which is in engagement with bolt E, strikes the said stud and its hooked end is forced to turn outwardly away from the side of the lever, as indicated in Fig. 2, thereby disengaging it from pin E

just as the plunger reaches the inner limit of the stroke. Stud K preferably has a friction-roller *k* on it for the edge of the hooks to impinge against. The under surface of lever G is notched at *k' k'*, so that it can be revolved over stud K without injury to the latter. The pitman D is thrown back as soon as the dog is disengaged therefrom by reason of the expansion of the hay or material, so that the box can be filled with a new charge of material to be compressed by the pitman, the latter being caught by the other dog on the lever as the lever revolves and forced inward again. The plunger is thus actuated twice for each revolution of lever G.

P P designate spring-rods attached to the feed-box B and having their ends bent inward and projecting through the sides of the box in such position that when a compressed bale has been ejected from the feed-box into box A it will prevent it from slipping back into box B.

Q Q designate draft-poles removably connected to the ends of lever G on opposite sides thereof, and braced and held in proper position in respect to said lever by pieces R R, connected to the lever and poles, substantially as indicated in the drawings.

S S designate doubletrees attached to poles Q, *s s* the singletrees, and *r r* the neck-yokes. Provision is thus made for operating the press by four horse-power.

The operation of the press will be obvious from the foregoing description.

Having described my invention, what I claim as new, and desire to secure by Letters Patent thereon, is—

1. The combination of the box, the plunger therein, and a pitman connected to said plunger with a lever pivoted near the outer end of the pitman and a spring-controlled dog pivotally attached to said lever and adapted to engage a pin on the pitman when the lever is turned to force the pitman inward, and mechanism for automatically disengaging said dog and pin, for the purpose and substantially as described.

2. The combination of the box, the plunger therein, and the pitman connected to said plunger, and the link connection between the outer end of said pitman and a fixed bolt with a lever pivotally mounted on said bolt, and having dogs or hooks on its opposite sides adapted to alternately engage a pin on said pitman and force the same inward as the

lever is turned, and the devices for automatically disengaging the hooks from the pitman at the proper point, substantially as described.

3. The combination of the pressing-box, the plunger therein, the pitman connected to said plunger, and the vertical bolt secured in the end of the base opposite the box and connected by links to the end of the pitman, the lever pivotally mounted on said bolt, the spring-controlled dogs pivotally secured to said lever on opposite sides of the bolt and adapted to engage a pin on the pitman, and the stud on said bar arranged to engage the dogs during their rotation with the lever and cause the same to release the pitman, substantially as and for the purpose described.

4. In a baling-press, the combination of the compression-box, the plunger therein, the pitman connected to said plunger, the links connecting the outer end of said pitman to a vertical fixed bolt, and the devices for throwing said pitman outward, substantially as described, with the lever centrally pivoted on said bolt, the hooked dogs projecting on opposite sides of and attached to said lever, the vertical pins attached to said dogs, and the springs bearing against these pins to hold the dogs in normal position, and the stud K for automatically disengaging these dogs from the pitman, substantially as specified.

5. The combination of the compression-box, the spring-rods attached thereto, the plunger therein having rearwardly-projecting upper and lower portions, substantially as described, and the vertical bolt secured in the end of the base opposite the box, and the pitman connected to said plunger, the links connected to said bolt and to the outer end of said pitman, and the upstanding pin on the outer end of said pitman, with the lever centrally pivoted on said bolt, the dogs pivotally mounted on said lever on opposite sides of the bolt and projecting in opposite directions, the pins and springs for holding these dogs in normal position to engage the pin on the pitman, and the stud for disengaging the dogs from said pin, and the devices for operating said lever, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

NATHANIEL P. SLATE.

Witnesses:

JAS. K. WEATHERFORD,
GEO. O. VERNON.