(No Model.) 3 Sheets—Sheet 1.

H. PURRIER.

BALING PRESS.

No. 354,517. Patented Dec. 14, 1886.

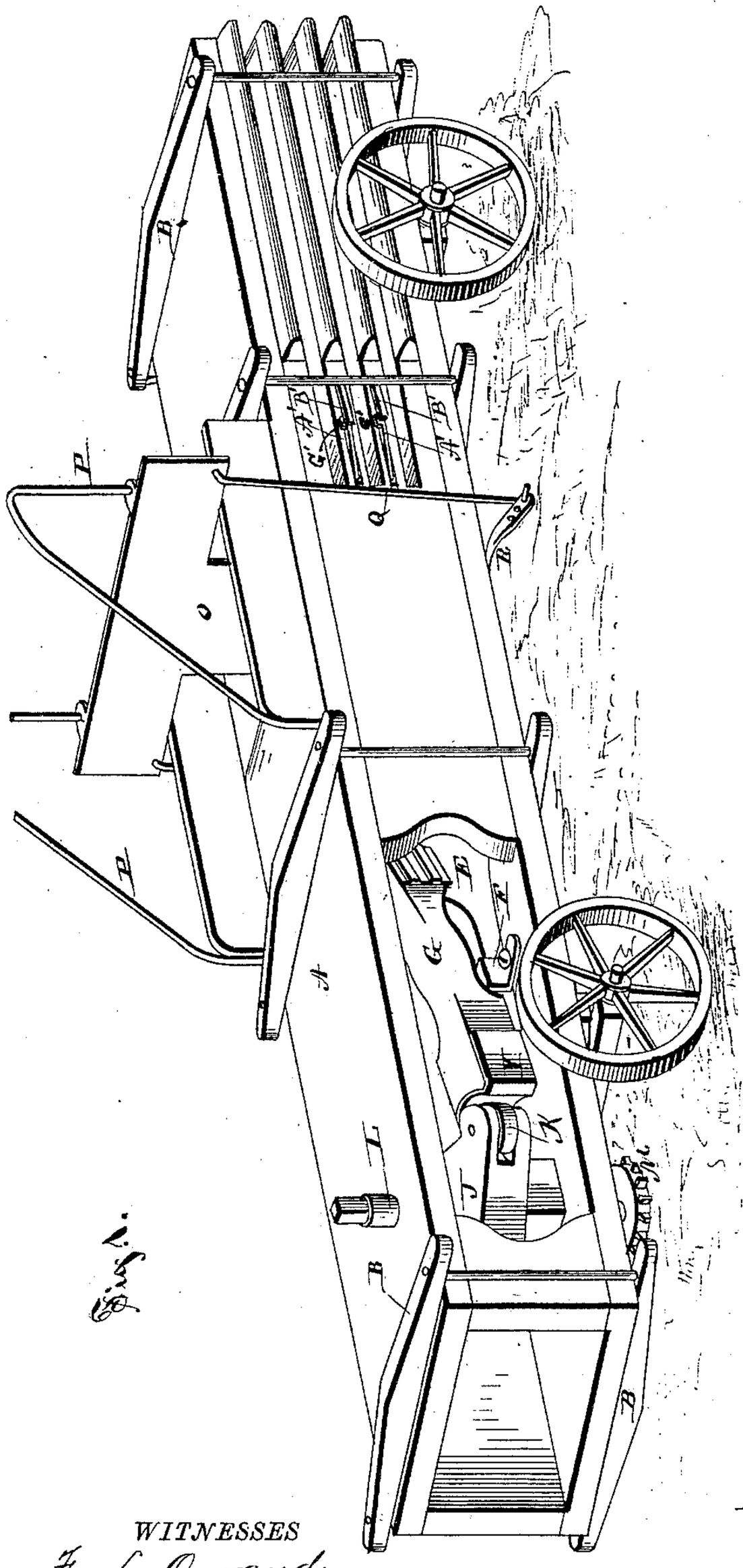


Fig. 1.

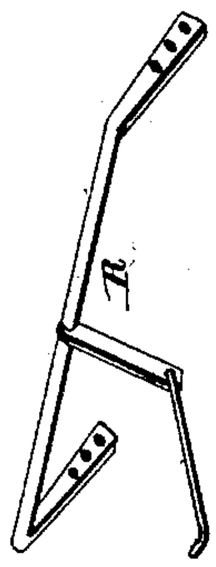


Fig. 2.

WITNESSES

F. L. Ourand

Arthur L. Morsell

Henry Purrier

INVENTOR

By Louis Bagger & Co.

Attorneys.

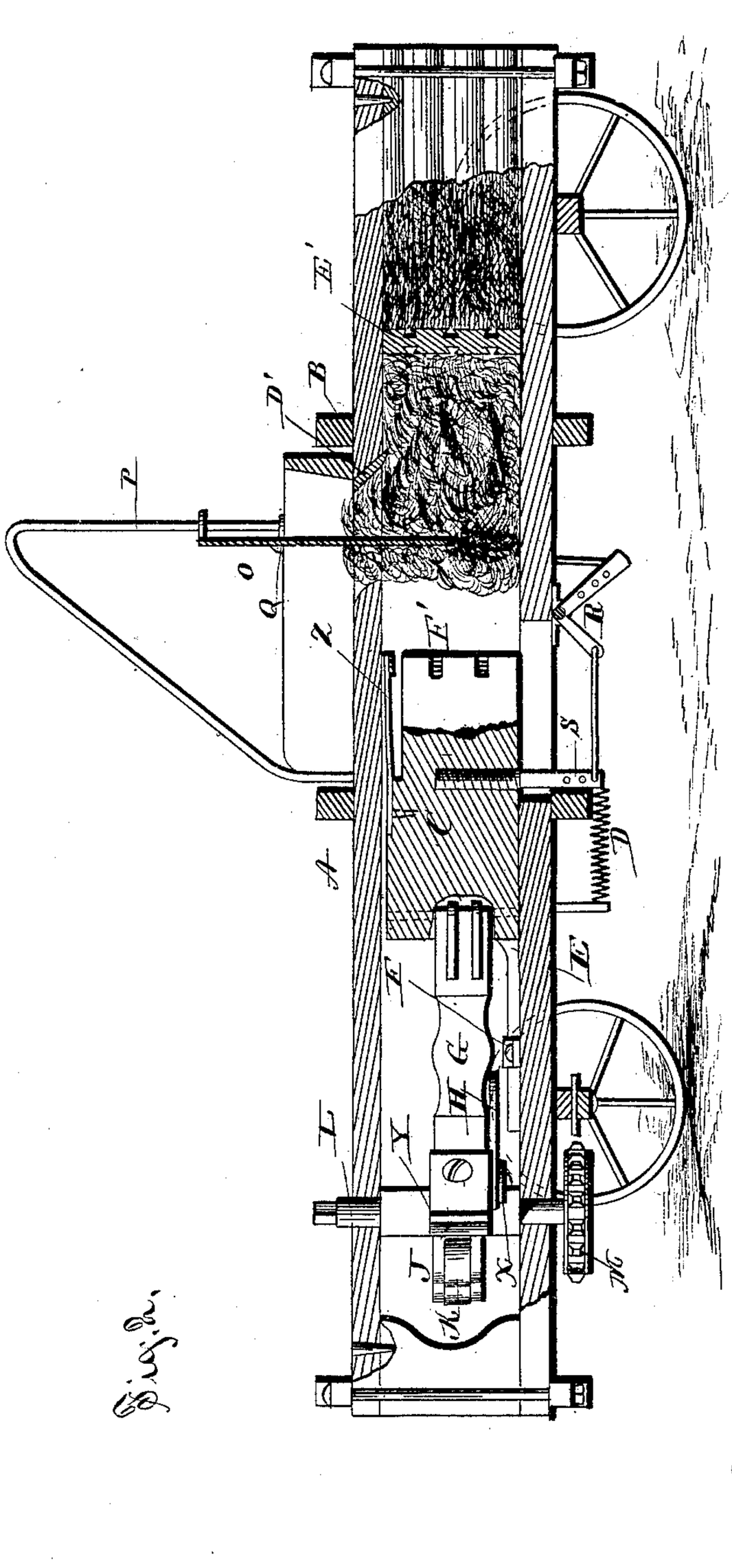
N. PETERS, Photo-Lithographer, Washington, D. C.

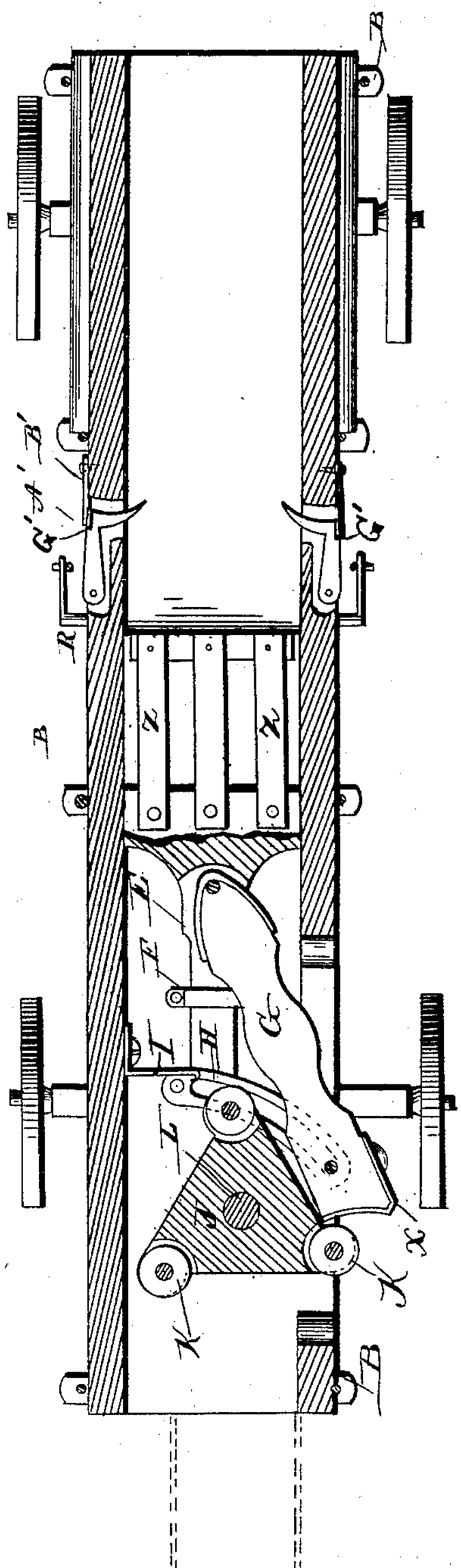
(No Model.) 3 Sheets—Sheet 2.

H. PURRIER.

BALING PRESS.

No. 354,517. Patented Dec. 14, 1886.





WITNESSES

F. L. Ourand

Arthur L. Morsell

INVENTOR

Henry Purrier

By Louis Bagger & Co

Attorneys

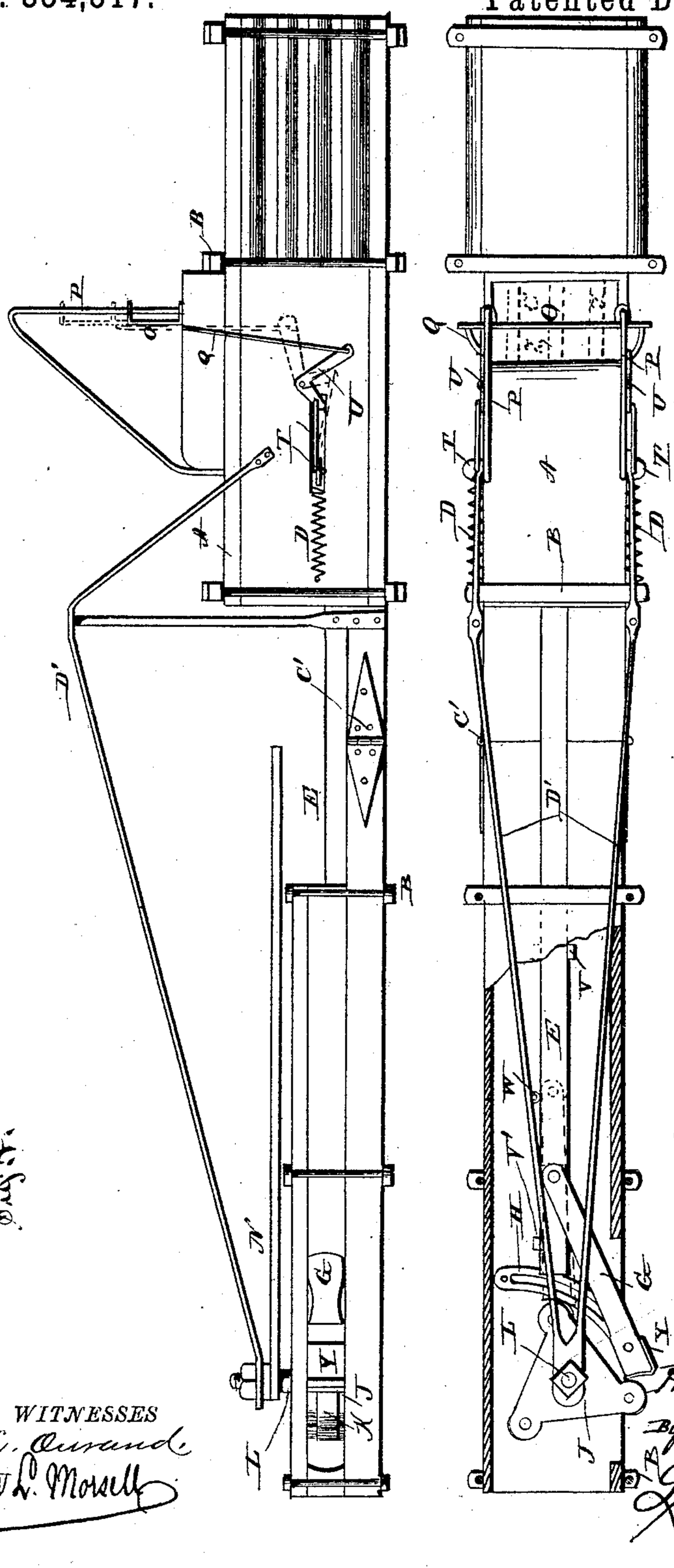
N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

H. PURRIER.

BALING PRESS.

No. 354,517. Patented Dec. 14, 1886.



WITNESSES
F. L. Durand
Arthur L. Morsell

Henry Purrier
INVENTOR
By Louis Bagger & Co.
Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

HENRY PURRIER, OF GUNNISON, COLORADO.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 354,517, dated December 14, 1886.

Application filed August 18, 1886. Serial No. 211,211. (No model.)

To all whom it may concern:

Be it known that I, HENRY PURRIER, a citizen of the United States, and a resident of Gunnison, in the county of Gunnison and State of Colorado, 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 of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved baling-press mounted on wheels; and Fig. 1ˣ is a perspective view of the compound bell-crank. Fig. 2 is a partially-sectionized side elevation of said press. Fig. 3 is a horizontal longitudinal section of the same, showing in dotted lines the chain belt leading from the sprocket-wheel of the power to the sprocket drive-wheel of the press. Fig. 4 is a side elevation of my press slightly modified to adapt it for use upon the ground, showing in dotted lines the feeder raised; and Fig. 5 is a partially-sectionized plan view thereof, dotted lines showing the plunger at full stroke.

Like letters of reference indicate corresponding parts throughout the several figures.

My invention has relation to baling-presses; and it consists in the improved construction and combination of parts forming the same, as will be hereinafter fully set forth.

The object of my invention is to provide a perpetual or continuous horizontal press which shall be self-feeding, the feeder being operated through the medium of a series of levers connected to the plunger, and which plunger shall be driven by a several-winged cam, the cam being actuated by horse-power applied to a lever connected directly to the cam-shaft, or by means of a belt leading from the power to a pulley located upon said shaft.

Referring to the accompanying drawings, A represents the removable top of the press-case, which is held to the body portion by means of dowel-pins and the binding-frames B.

C represents the plunger; D, the retracting-spring; E, the plunger-stem; F, the guide; G, the pitman pivoted by its inner end to said plunger; H, the pitman-restraining segment; I, the pitman-abutment; J, the plunger-actuating cam; K, the anti-friction rollers located in the wings of said cam; L, the cam-shaft; M, the sprocket-wheel attached to the lower end of said shaft when the press is mounted on wheels; N, the drive-lever, which is attached to the upper end of the cam-shaft when the press is located on the ground, and O the feeder.

The press-case is in most respects constructed in the manner common to horizontal presses, the baling-box being provided with lateral slits for the bale-ties, and the strips formed by said slits being externally re-enforced.

The feeder O consists of a T-shaped piece adapted to slide vertically upon braced guide-rods P, which are secured on the top of the press, one on each side of the mouth. To each end of the top of the feeder are secured connecting-rods Q, which in the mounted press are connected by their lower ends to one of the two lateral arms of a compound three-armed bell-crank, R, said lateral arms being provided with adjustment-perforations. This bell-crank is centrally pivoted to the under side of the press, and its downwardly-projecting middle arm is linked to a stud, S, which is secured in the under side of the plunger, and is adapted to play in a longitudinal slot in the under side of the press. Said stud is also provided with adjustment-perforations.

In the form of press represented in Fig. 4 there are two studs, T, attached one to each side of the plunger, and these play in longitudinal slots in the sides of the press. Said studs are linked to simple bell-cranks U, which are pivoted one to each side of the press, and which in turn are linked to the upper ends of the feeder. The guide F for the plunger-stem in the mounted press is a bail-strap secured to the bottom of the case; but in the other press said stem is guided by posts V and V′, aided by the roller W. The segment H is slotted nearly its entire length and pivoted at its inner end to the casing. A screw projects from the head of the pitman through said slot, and a washer, X, upon the screw confines the segment movably to said pitman. This segment

guides the pitman in its return movement, and also keeps the head from swinging out so far as to miss the cam-wings. The head of said pitman is transversely concave and capped with a sheet of metal, Y. In this concavity fit, successively, the ends of the cam-wings. In the drawings the cam is represented with three wings; but more or less may be used. The anti-friction rollers in the ends of the wings are journaled between rounded ears in an eccentric manner as to the peripheries of said ears, so that said rollers do not become effective or bear against the head of the pitman till the latter has nearly reached the abutment I, Fig. 3, or the guide-posts V′ in Fig. 5. Then the rollers assist the cam in freeing itself from the pitman.

The retracting-spring in the mounted press is on the under side thereof, and is attached to the case at one end and to the stud S. In the other form of press said spring is attached to one of the studs T and to the side of the case. This spring need only be used while the press is being started, and may be removed when it is under way, as the resiliency of the hay will give the plunger sufficient rebound without the aid of said spring.

The upper side of the plunger is cut away for a distance from the end and a plaiting apparatus is attached thereto, its outer end being flush with the end of the plunger. Said apparatus consists of flat springs Z, which are joined together at their outer ends by a transverse strip. The employment of this apparatus allows the end of the plunger to be reduced to prevent any clogging from portions of hay that are not completely fed in, and at the same time provides, by means of the springs Z and cross-bar at their ends, a beating-surface for the end of the plunger, which completely fills the baling-chamber, and said plaiting apparatus also serves to keep the ragged edge tucked down. A metal plate, D′, is secured to one of the end edges of the mouth of the press, and projects a little way into the baling-chamber to assist said plaiting apparatus in tucking down the ragged edge and in making a smooth bale.

In each side of the press flat L-shaped hooks A′ are pivoted by one of their ends in horizontal slots. Their points project through into the bale-chamber and have the curved sides thereof toward the mouth of the press. At the angle of each hook there projects a lateral lug, G′, against which a plate-spring, B′, bears. Said lugs serve to prevent the hooks from being forced in too far and at the same time afford means for swinging them out by hand when it becomes necessary. In the side edges of the end of the plunger notches F′ are formed, which house the points of said hooks as the plunger is forced forward. This allows the plunger to push the followers beyond said points, when followers are used, and to clear the points of any hay which may cling to them.

The follower E′ consists of a rectangular wooden block provided on both faces with dovetail grooves, Fig. 2, through which the bale-ties may be passed. When not using a follower, I use a three-tined needle, by each tine of which the ends of two bale-ties are passed through from one side of the press to the other.

The press-case shown in Figs. 4 and 5 is made in two sections for the sake of convenience in transportation, and said sections are joined rigidly together by means of strap-hinges C′ and truss-rods D′. Said truss-rods are for the purpose of preventing the two parts from buckling when the pressure is put on the plunger. They are united at their outer ends to an eye, which is passed over the upper end of the cam-shaft. They then pass over strut-posts, to allow the horses to pass under them, and are bolted at their inner ends to the sides of the press-case.

In the operation of the press each forward stroke of the plunger causes the feeder to rise and each reverse stroke causes said feeder to lower and carry into the press the material placed in the hopper at the mouth of the press. At each rotation of the cam-shaft the plunger makes as many strokes as there are wings on the cam, said plunger being retracted by the spring or rebounded by the resiliency of the hay as each wing of the cam releases the pitman-head, which is guided by the retracting-segment in the back strokes of the plunger to engagement with each successive wing as the cam is rotated.

Having thus fully described my invention, I claim—

1. In a horizontal baling-press, the combination, with a plunger and a pitman connected to said plunger, of a several-winged cam provided with rounded ears at the ends of the wings, and anti-friction rollers journaled between said ears in a manner eccentric as to the peripheries of the latter.

2. In a horizontal baling-press, the combination of a several-winged cam, a plunger, a pitman, and an abutment, I, for said pitman.

3. In a horizontal baling-press, the combination of a several-winged cam, a plunger with guided stem, and a pitman pivoted at one end to said stem, and having its other end transversely concave and metal-capped.

4. In a baling-press, the combination of a plunger cut away on one side near the pressing end thereof, and a plaiting apparatus consisting of flat springs attached at one end to the plunger and connected at the other by a transverse strip.

5. In a baling-press, the combination, with the press-case, plunger, and follower, of L-shaped hooks provided with lateral lugs at their angles, and springs bearing against said lugs.

6. In a baling-press, the combination of a plunger, studs laterally projecting from said plunger, bell-cranks, a feeder, braced guide-rods, and connecting-rods uniting said studs, cranks, and feeder.

7. In a horizontal baling-press adapted to

be placed upon the ground, the combination, with the two sections hinged together, of truss-rods united at their outer ends to an eye, which fits upon the cam-shaft, and bolted at their inner ends to the press-case, and strut-posts attached to said case for the support of said rods.

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

HENRY PURRIER.

Witnesses:

HERMAN HOLLOWAY,

SPRIGG SHACKLEFORD.