

(No Model.)

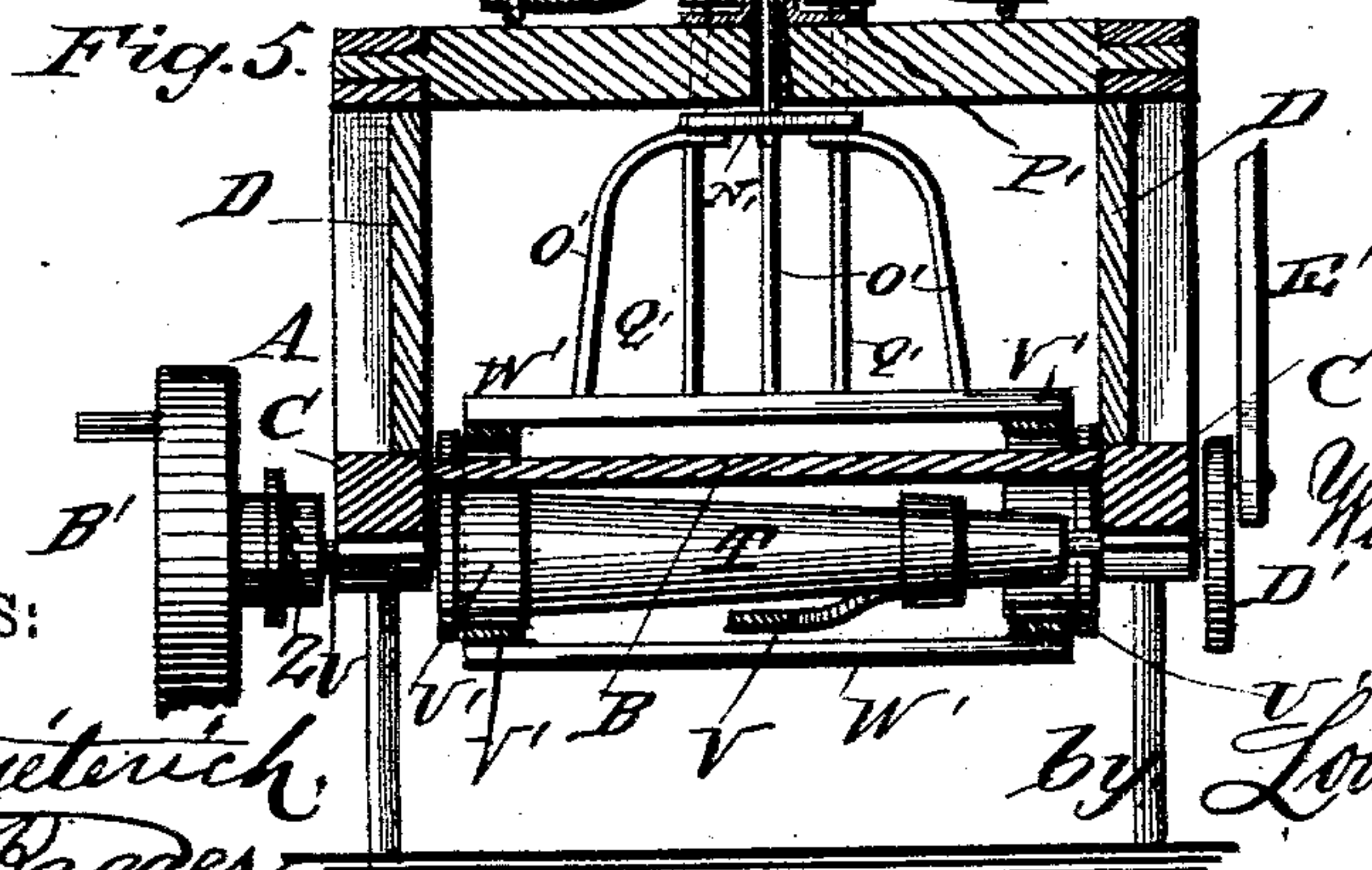
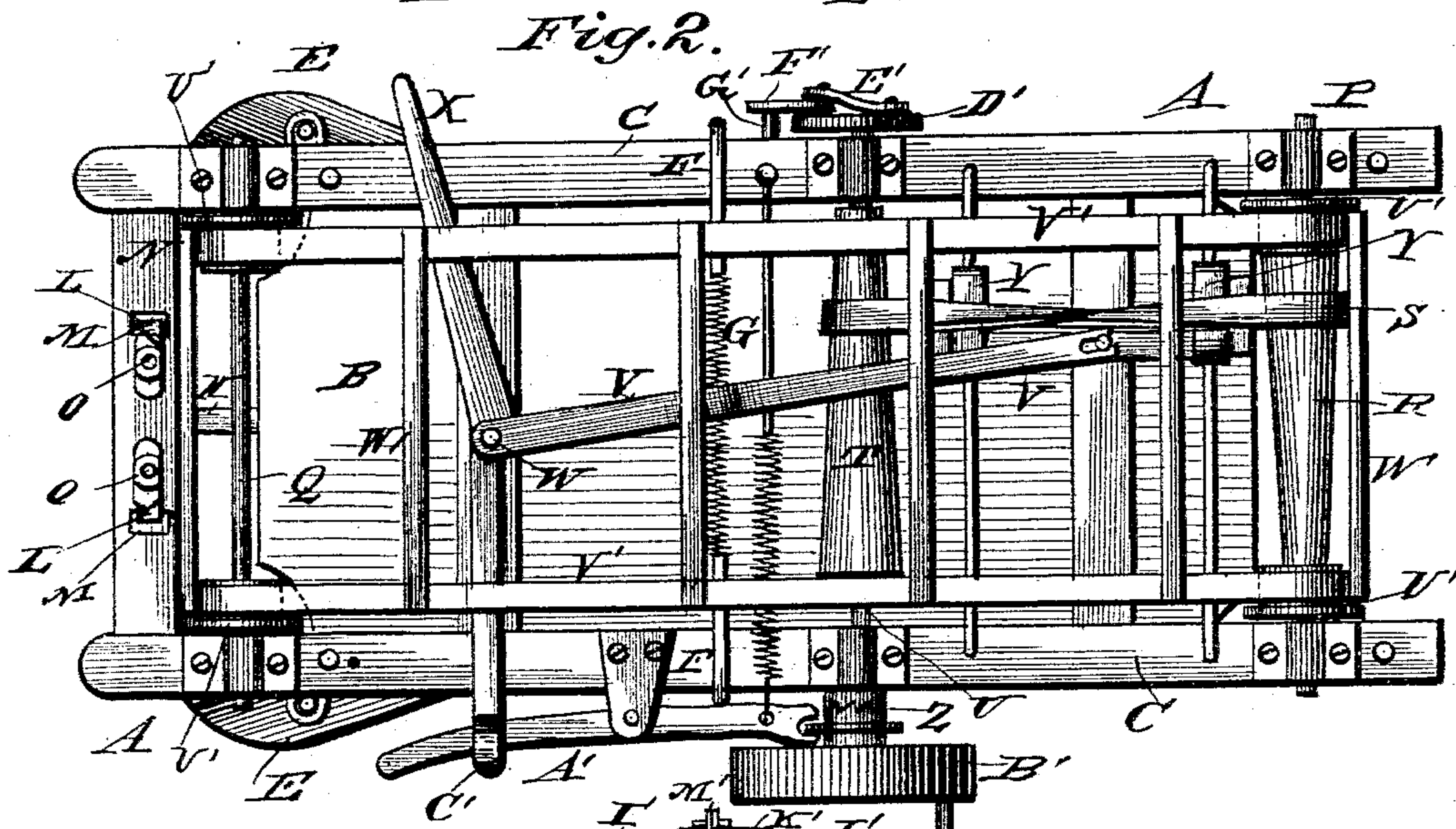
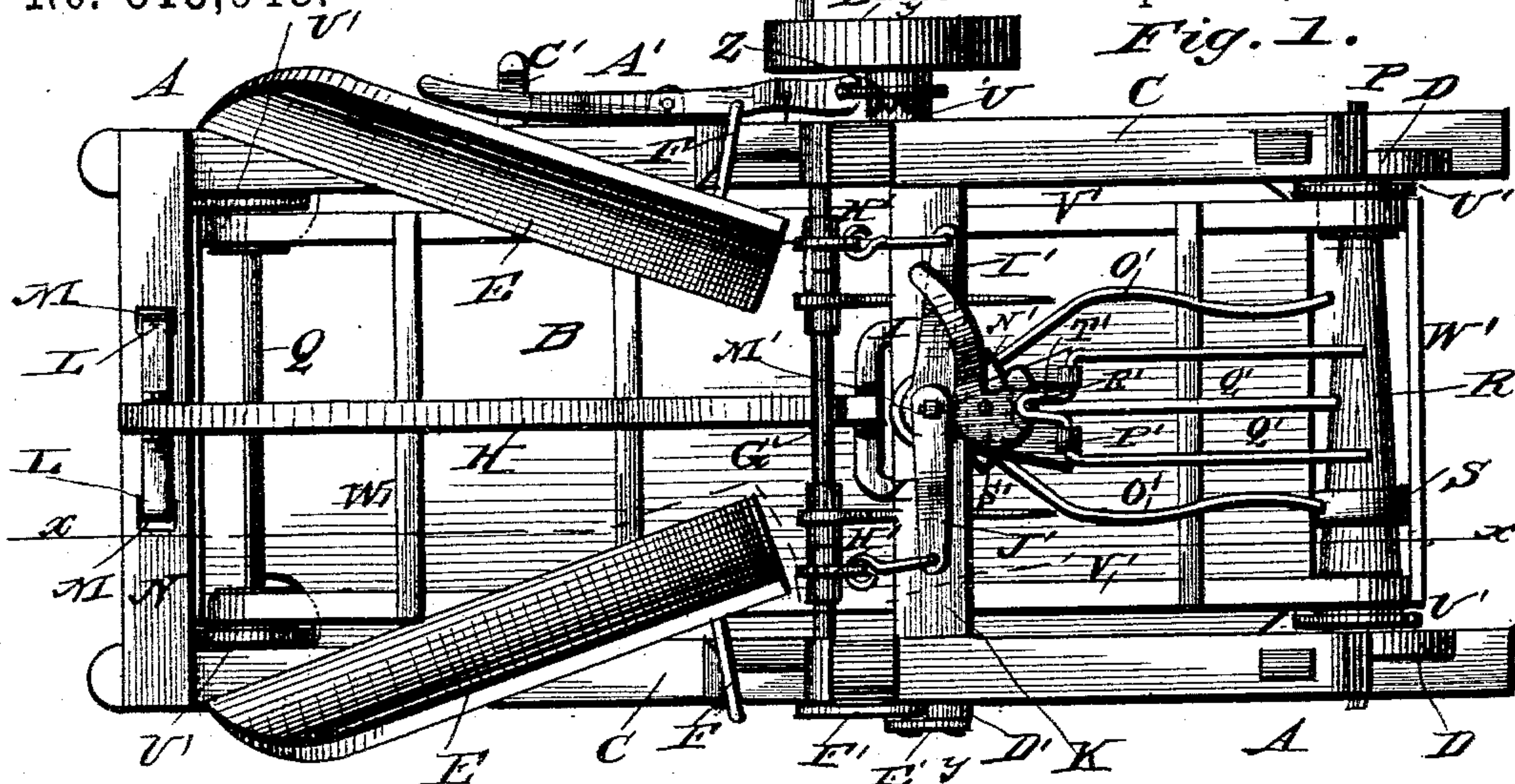
2 Sheets.—Sheet 1.

W. S. JUDD.

BAND CUTTER AND FEEDER FOR THRASHING MACHINES.

No. 315,948.

Patented Apr. 14, 1885.



WITNESSES:

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William S. Judd,
INVENTOR.

by Louis Bagger & Co.,
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

WILLIAM SIMMONS JUDD, OF CARTHAGE, MISSOURI.

BAND-CUTTER AND FEEDER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 315,948, dated April 14, 1885.

Application filed December 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. JUDD, a citizen of the United States, and a resident of Carthage, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Band-Cutters and Feeders for Thrashing-Machines; 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 plan view of my improved feeding and band-cutting attachment for thrashing-machines. Fig. 2 is a bottom view of the same. Fig. 3 is a longitudinal vertical sectional view taken on the line *xx* in Fig. 1. Fig. 4 is a side view of the device. Fig. 5 is a transverse sectional view taken on the line *yy* in Fig. 1, and Fig. 6 is a detail view in perspective of the detachable central guide-board and the adjoining parts.

The same letters refer to the same parts in all the figures.

This invention relates to band-cutters and feeders for thrashing-machines; and it consists in certain improvements in the construction of the same, having for their object to provide a device which shall possess superior advantages in point of simplicity, durability, and general efficiency, which may be readily and conveniently operated by connecting it with driving parts of an ordinary thrashing-machine, which shall be provided with swinging or reciprocating band-cutting knives, oscillating spreaders, and flexible sheaf-guides, and a detachable center guide-board enabling the machine to feed loose as well as bound grain, and having means for regulating the speed and governing the motion of the various parts of the attachment.

With these ends in view the invention comprises the construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A designates the frame of the device, which consists of a bottom, B, connecting the side beams, CC, the rear ends of which are provided with upwardly-extending sides or flanges, DD.

EE are inclined guide-boards secured pivotally to the side beams of the frame, near the front end of the same, and provided at their rear ends with guides FF, embracing the side beams, and connected under the bottom of the device by a spring, G, serving to force the inner or rear ends of the said guide-boards in an inward direction toward each other.

H designates a detachable center board, which is provided at its front end with lugs II, adapted to enter openings J in a transverse beam, K, connecting the side flanges of the device. The rear lower end of the said center board is provided with hooks LL, adapted to extend through slots MM in the rear beam, N, of the device, which is provided on its under side with turn-buttons OO, adapted to engage the said hooks, and thereby secure the said center board in position. When sheaves are fed to the machine, it is proposed to use the said center board, on each side of which a sheaf may be fed, and when loose grain is fed the said center board is removed.

P and Q designate shafts, journaled transversely under the frame, at the front and rear ends, respectively, and the latter of which is provided with a cone-pulley, R, connected by a belt or band, S, with a conical pulley, T, upon a central transverse shaft, U.

V designates a bell-crank lever, pivoted at W, and having a projecting arm, X, serving as a handle, by means of which a belt-shifter, Y, pivoted to the end of the other arm of the said bell crank-lever may be adjusted. By this means the belt S may be adjusted, and the speed of the device regulated.

One end of the shaft U is provided with a sliding clutch collar or sleeve, Z, adapted to be operated by means of a suitable lever, A', whereby it may be thrown into or out of engagement with a band-wheel, B', upon the shaft U, whereby the device is operated. When the clutch is in gear, this lever may be retained by a spring latch or catch, C', and when the lever is lifted out of this latch a suitably-arranged spring serves to pull its other end so as to throw the clutch-sleeve operated thereby out of gear.

The other end of the shaft U is provided with an eccentric disk or crank, D', connected by a rod or pitman, E', with a crank, F', on one end of a shaft, G', mounted transversely

upon the upper part of the frame, and to which an oscillatory or rocking motion is thus imparted. Said shaft is provided with cranks H' H', with a pair of levers, I' and J', one of which, I', is mounted upon a tubular shaft or sleeve, K', and the other of which is mounted upon a pin, M', journaled in the sleeve K', and extending through the frame-beam L'. The lower end of the pin or shaft M' carries a plate, N', to which is attached a series of rearwardly and downwardly extending fingers or stirrers, O' O', and the sleeve K' carries a plate, P', to which is pivoted a pair of fingers or stirrers, Q', formed in a single piece, and with a rearward-extending lug, R', under which fits a cam-plate, S', pivoted upon the plate P', and which may be withdrawn so as to permit the said fingers to be raised or lifted out of the way. When thus raised or lifted, the lug R' passes through a slot, T', formed in the plate P', and retained by swinging the cam-plate over it. It will be observed that by the mechanism described the fingers O' and Q' are oscillated in opposite directions, thus serving effectively for spreading the most tangled grain. When the grain is less tangled, the fingers Q' may be raised out of the way, as described.

The shaft U is provided with a pair of downwardly-extending curved knives or cutters, which, as the said shaft oscillates, serve to cut the bands of the sheaves.

The ends of the shafts P and Q are provided with flanged pulleys U', on which run the belts V' of the carrier, which is constructed simply of transverse slats W', connecting the said belts, as shown.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. It is simple in construction, and may be readily attached to any thrashing-machine of ordinary construction. It will operate with equal efficiency for the purpose of feeding either loose or bound grain, the center board being readily detached for the former purpose. The band-cutters are simple and durable, and the spreading mechanism is likewise simple, and are readily adapted to the peculiar requirements of the grain which is to be fed. The flexible side guide-boards will under all circumstances guide the grain in the proper direction and avoid choking. The speed of the machine may be easily and satisfactorily regulated, and the machine may be instantaneously thrown into or out of gear, as may be required.

It is obvious that in the practical manufacture of this invention it may be found desirable or necessary to make various slight changes in the construction and arrangement of details. I would therefore have it under-

stood that I do not limit myself to the precise construction herein shown and described, but reserve to myself the right to all such changes and modifications as may be resorted to without departing from the spirit of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a band-cutter and feeder for thrashing-machines, the combination, with the frame, of the pivoted inclined side guide-boards, the guards at the rear ends of the same extending around the side beams of the frame, and a coiled spring connecting the said guards under the frame, substantially as and for the purpose herein set forth.

2. In a band-cutter and feeder for thrashing-machines, the combination, with the inclined side guide-boards pivoted at the front end of the frame and connected flexibly at their rear ends by a spring arranged under the frame, of a detachable vertical center board, substantially as and for the purposes herein shown and specified.

3. In a band-cutter and feeder for thrashing-machines, the combination of the frame, the inclined swinging side guide-boards connected flexibly at their rear ends, and the transversely-arranged rock-shaft carrying the curved knives or band-cutters, substantially as and for the purpose herein set forth.

4. In a band-cutter and feeder for thrashing-machines, the combination, with the frame, a transverse operating-shaft, and suitable connecting mechanism, of a vertical tubular shaft, a slotted plate provided with hinged spreading-fingers constructed with a rearwardly-extending lug, a pivoted cam-disk, a vertical shaft mounted in the said tubular shaft, and a plate at the lower end of said shaft provided with permanent stirring-fingers, as and for the purpose shown and set forth.

5. The herein-described improvement in feeders and band-cutters for thrashing-machines, comprising the frame, the feeder, the inclined swinging and flexible side guide-boards, the detachable center board, a speed-regulating device, oppositely-oscillating spreading-fingers, mechanism whereby the upper ones may be raised out of action, band-cutting knives, operating mechanism, and mechanism for throwing the latter into or out of gear, substantially as and for the purpose herein shown and specified.

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

WILLIAM SIMMONS JUDD.

Witnesses:

CHAUNCEY WILLIAM JUDD,
THOMAS M. GARLAND.