

A. B. CRAWFORD.

Thrashing Machine.

No. 58,338.

Patented Sept. 25, 1866.

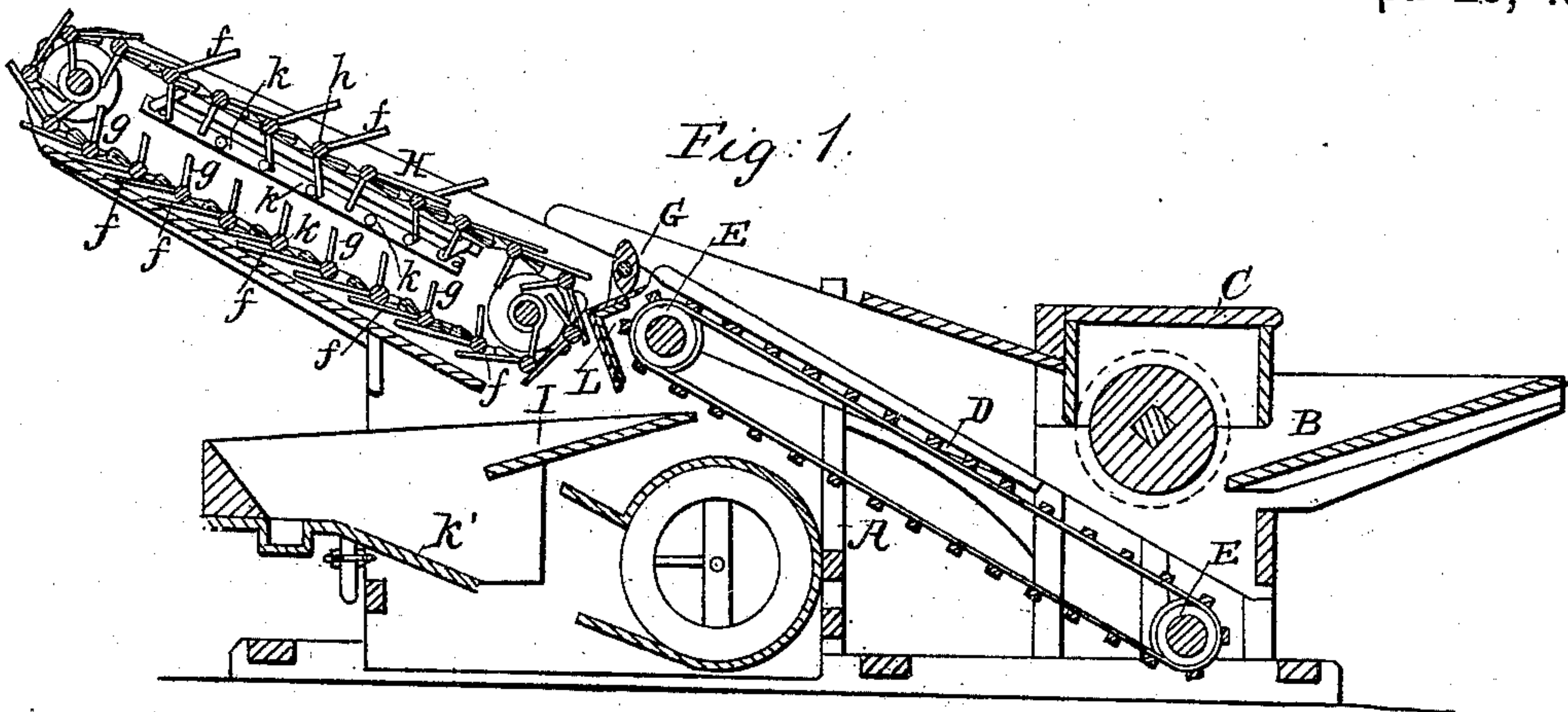


Fig. 2.

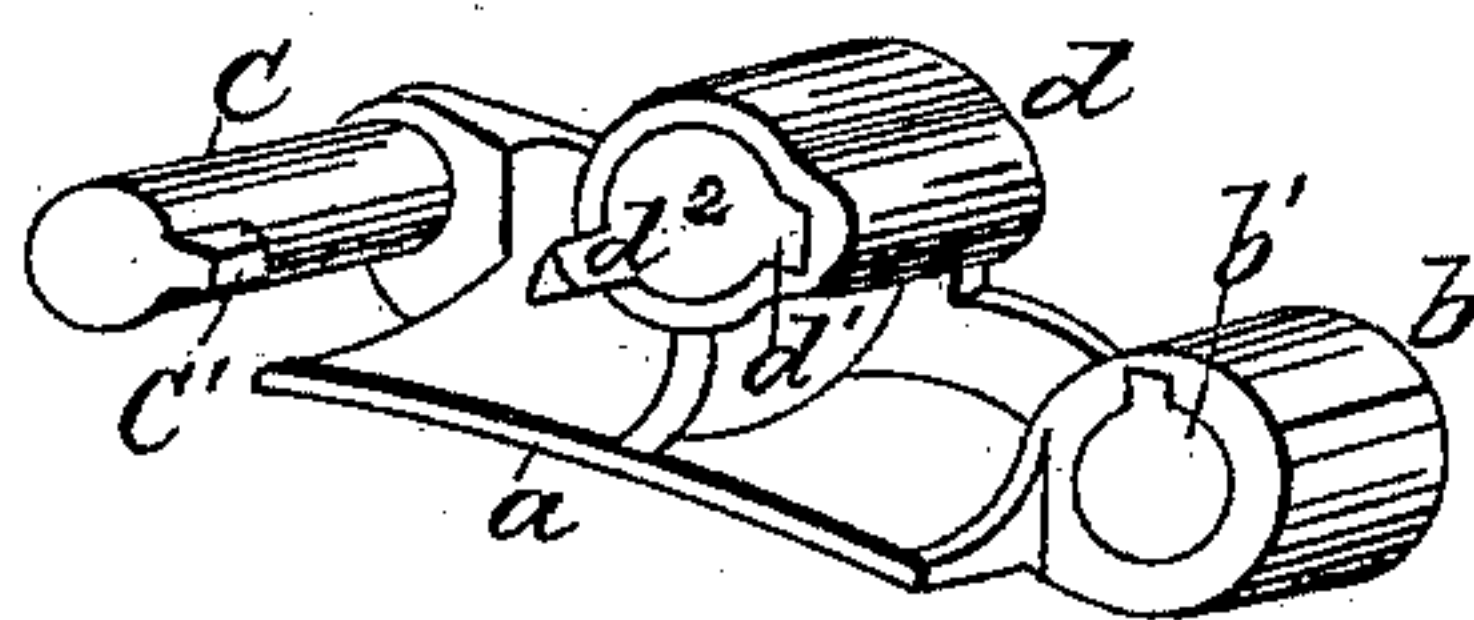


Fig. 3.

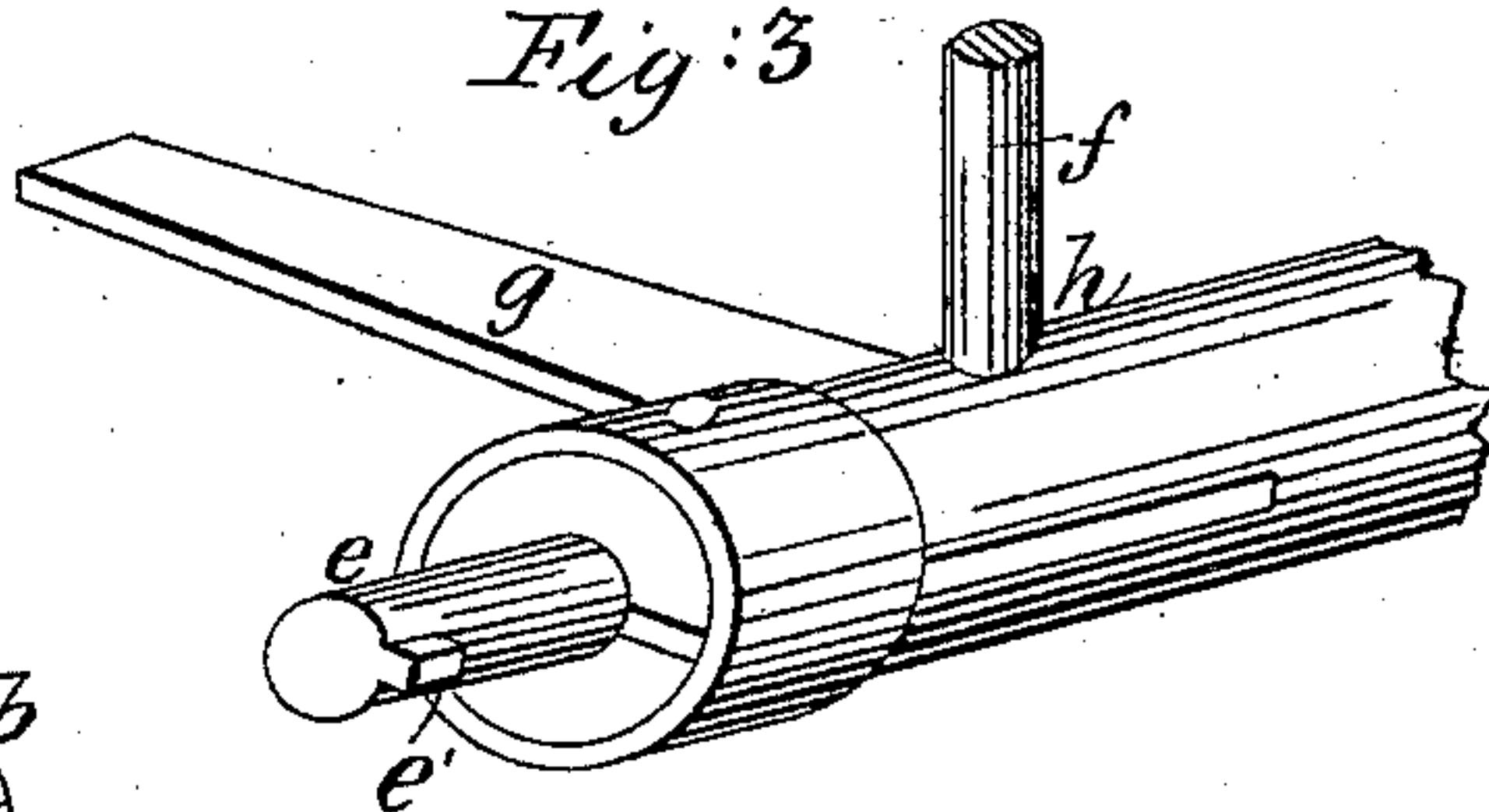


Fig. 5.

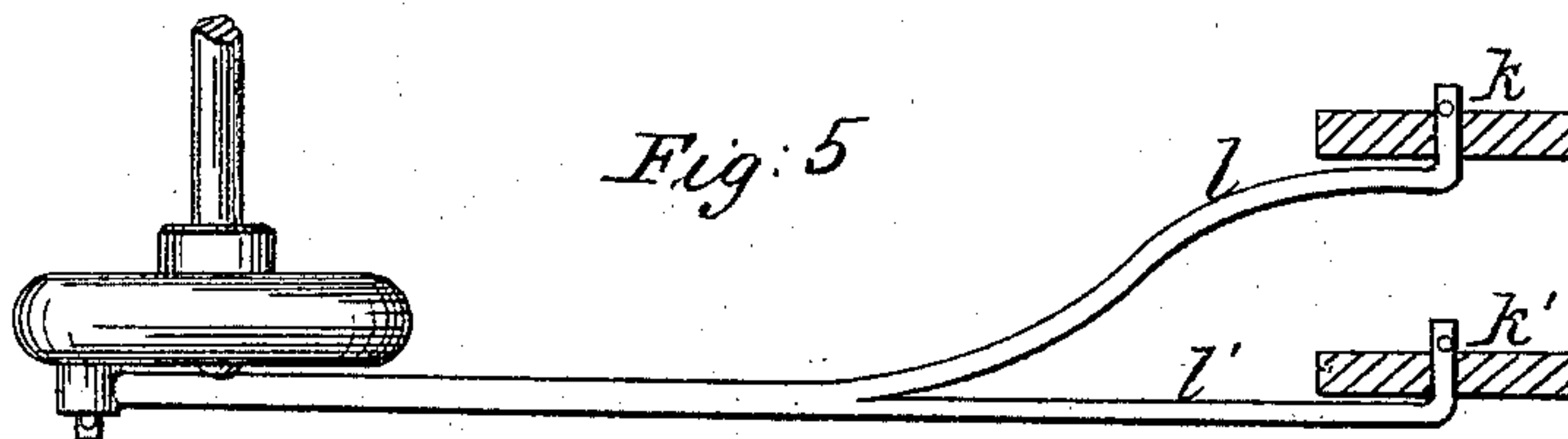
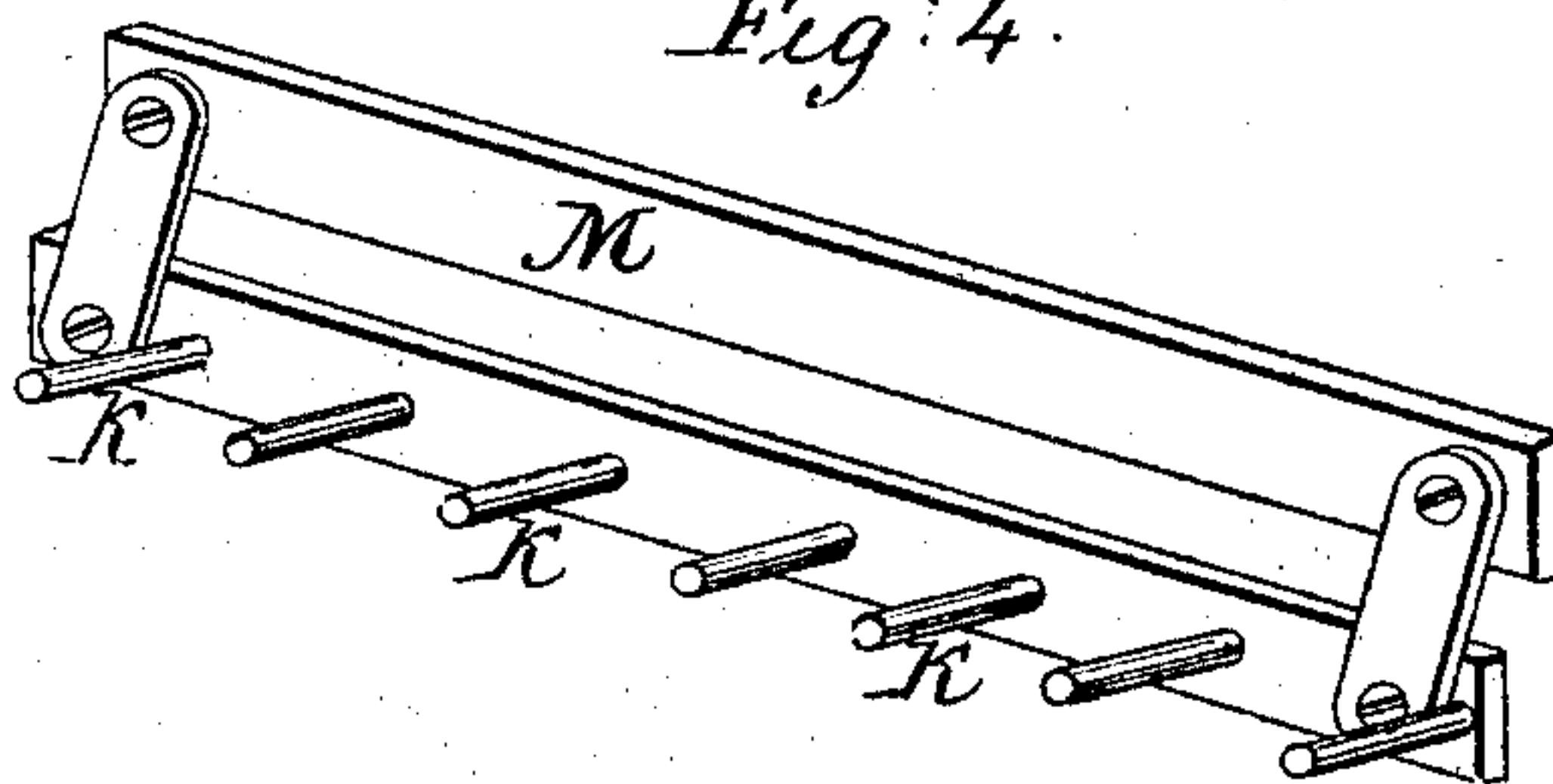


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

A. B. CRAWFORD, OF PIQUA, OHIO, ASSIGNOR TO HIMSELF, JOHN O'FERRALL,
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IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. 58,338, dated September 25, 1866.

To all whom it may concern:

Be it known that I, A. B. CRAWFORD, of Piqua, in the county of Miami and State of Ohio, have made new and useful Improvement in Thrashing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable one skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, which are made part of this specification, and in which—

Figure 1 is a longitudinal vertical section of the same. Fig. 2 is a view of the detached link of the straw-carrier. Fig. 3 is a detached view of a portion of one of the rounds of the straw-carrier with its attached arm, tooth, and journal. Fig. 4 is a view of the arrangement of the adjustable frame carrying the pins, which placed against the inside of the machine arrest the arms on the rounds of the straw-carrier and partially rotating the said rounds, agitate the straw. Fig. 5 is a view of the double rod by which the shoe is moved.

My improvements relate to the dividing-board, Fig. 1, which is placed between the grain-belt and straw-carrier, acting in connection with each to prevent interference with the duties of the other; second, in making the pins, Fig. 4, adjustable vertically, so as to act with more or less energy upon the passing arms of the straw-carrier rounds, and consequently agitate the straw to a greater or less extent; third, in the construction of the link, Fig. 2, of the straw-carrier belt; fourth, in the double attachment, Fig. 5, to the shoe of the shaking-rod, by which greater steadiness is secured.

In the machine illustrated in the accompanying drawings, the cylinder, grain-belt, and fan-mill are of ordinary construction, the frame and general appearance of the machine resembling those in common use.

A is the frame; B, the feed-board; C, the cap over the thrashing-cylinder; D, the ordinary cellular grain-belt, made of slats, on a canvas or webbing, which is stretched over the rollers E F, revolving so as to carry all that falls upon it from the cylinder upwardly until it arrives at the picker G, which removes the straw and throws it upon the straw-carrier H, while the grain and chaff which are retained

within the cells formed by the slats falls out as the belt comes over the roller E and are discharged into the shoe I, where the chaff is blown by the fan out at the tail of the machine, the grain being collected in the spout in the usual manner.

The straw thrown by the picker upon the carrier H is carried upward and onward by the latter, being agitated on its passage so as to allow all the grain to fall out onto the board K', which discharges it into the shoe, while the straw itself, falling over the end of the machine, is received upon the ground, or on a stacker, or in any other manner that may be convenient, varying according to the use for which it is designed, or the nature of the place or position in which the machine is set.

The dividing-board L is placed between the upper or discharging end of the grain-belt D and the lower end of the straw-carrier H, and is of an angular form, with a sheathing of sheet-iron at the point exposed to the scraping of the passing teeth of the straw-carrier. Its shape is indicated at L, Fig. 1, and the advantages derived from its use are three in number:

First, it prevents the teeth of the rake or vibrating belt from striking the grain as it is being delivered to the shoe or cleaning apparatus of the machine, and violently knocking it out onto the ground under the machine.

Second, it prevents the picker from being wrapped with straw, as is liable to be the case in all other machines when the straw is damp. This is done by placing the picker G so near the dividing-board that should any straw wrap around the picker it is broken on the sheet-iron edge of said board and thus thrown off.

Third, it prevents the straw from being carried back under the machine by the first or canvas belt. This it does by receiving the straw on its edge as the straw is carried up from the cylinder, being then lifted over by the picker and delivered to the straw-carrier.

The straw-carrier is composed of a series of rounds, *h*, which are socketed in endless chains formed of links represented in Fig. 2. These links consist of the flat portion *a*, which comes in contact with the rollers over which it passes, a socket, *b*, and a pintle, *c*. The socket is adapted to receive the pintle of the next link, which is

inserted by holding it in such a position that the projection c' will pass through the enlargement b' , after which it is partially rotated to reach the working position in which the projection c' restrains the pintle from being withdrawn from the socket b .

d is another socket, adapted to receive the pintle or journal e of the round or rung h of the carrier. (See Fig. 3.) This journal has a projection, e' , which after being entered at the enlargement d' of the socket d , is retained therein by partial rotation, the limit of the latter being reached when the projection e' reaches the lug d^2 on the socket d . The object of this limitation will be presently explained.

On the rounds h are teeth f and arms g , and their position is such that the teeth at times lie in the direction of the motion of the belt, while the arms g hang downward until they come in contact with the pins K , which project athwart their course, and cause them to alternately elevate and drop back, communicating a similar motion to the teeth f , which has the effect of agitating the straw and shaking the grain which has become entangled therein. For the purpose of making this undulatory motion of the straw more or less energetic, the pins K are set in a frame, M , which is capable of vertical adjustment, so as to bring it nearer to or farther from the traversing-belt, so as to raise the arms g , and consequently the teeth f , to a greater or less extent as the former are dragged over the pins K . This frame carrying the pins K , and capable of the said vertical adjustment, is represented in Fig. 4.

The object of limiting the rotation of the rounds of the chain is to prevent the teeth from falling forward in their upward motion onto those in front, and exposing an opening for

the straw to enter the belt, instead of merely lying upon it.

The forked rod, Fig. 5, for shaking, is attached, as usual, to a crank, or, by a wrist, to a small wheel, so as to receive a reciprocating motion by the rotation of the latter; but, instead of being attached to the shoe in one place, it is attached in two places, $k k'$, by the rods $l l$. The advantage to be derived from the use of this shaped rod is steadiness of motion, as imparted to the shoe.

The rod in almost universal use is simply a straight piece of round iron, with a hook at each end, and should the shoe not be hung exactly true on its pendants it does not shake with a straight back and forth motion, but with a twisting trembling shake that soon destroys not only the pendants but the shoe itself. By the use of my forked rod I claim to avoid this difficulty, and shake the shoe with a true back and forth motion.

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

1. The angular dividing-board L , applied and operating substantially as described and represented.
2. The arresting-pins K , on the movable frame M , as described.
3. The link, Fig. 2, with its corresponding pintle and socket, the socket for the reception of the journal of the round and lug, limiting its rotation by the impingement of its projection e' , as described.
4. The forked rod for shaking the shoe, as described and represented.

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Witnesses:

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