

H. A. Parkhurst.

Mower.

No 19442

Patented Feb. 23, 1858

Fig. 1.

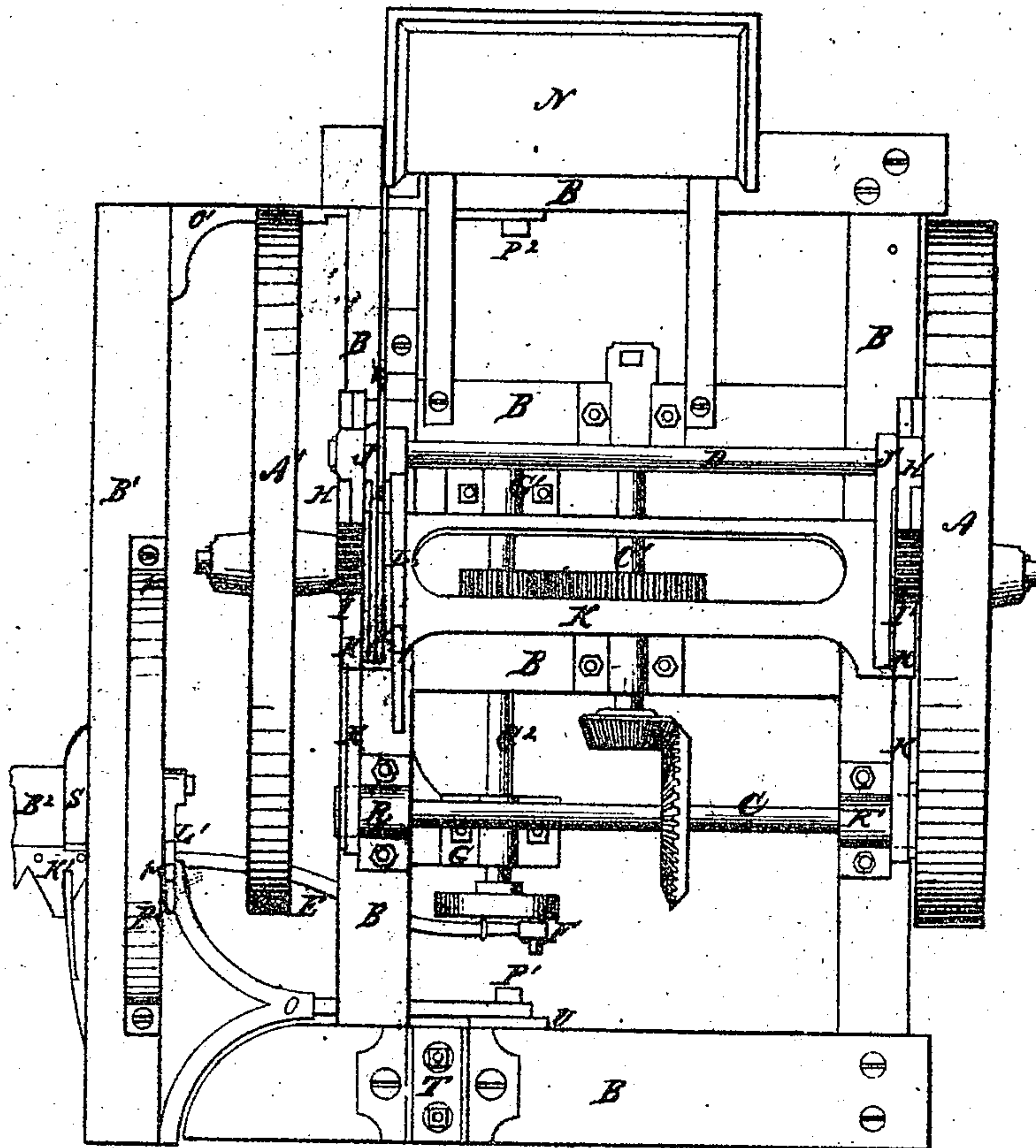


Fig. 5.

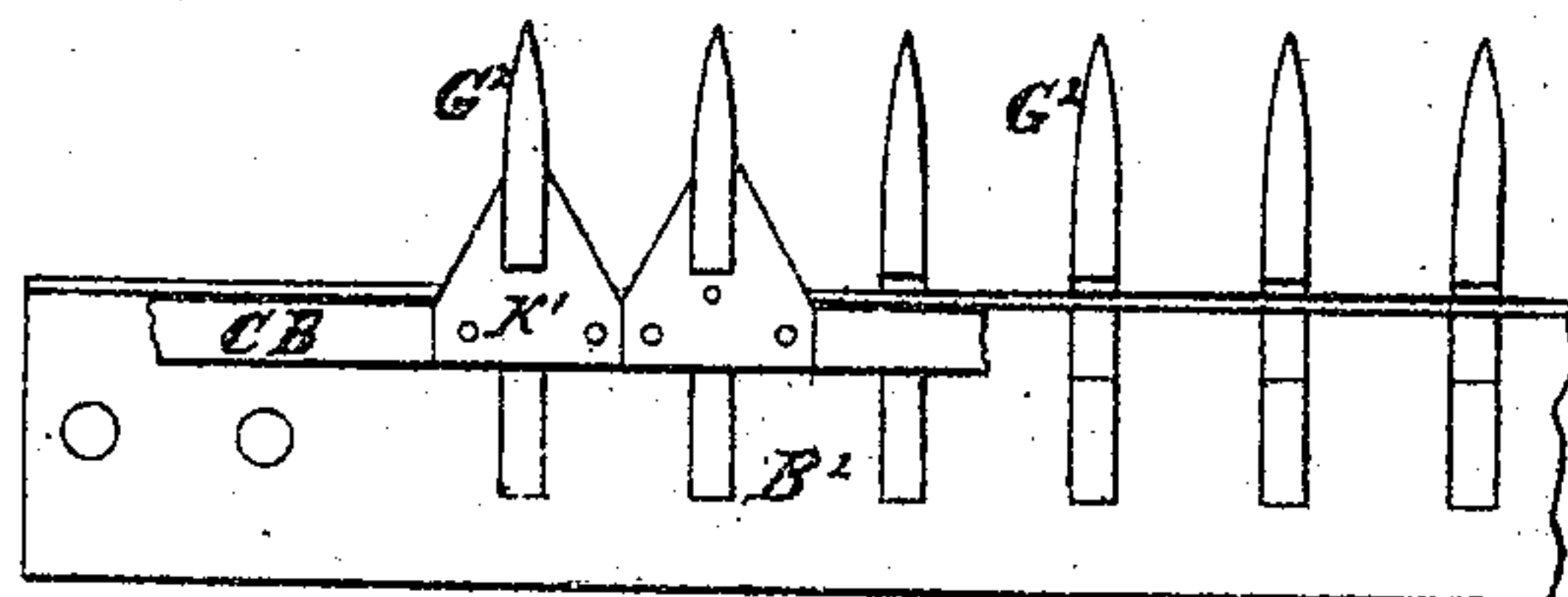
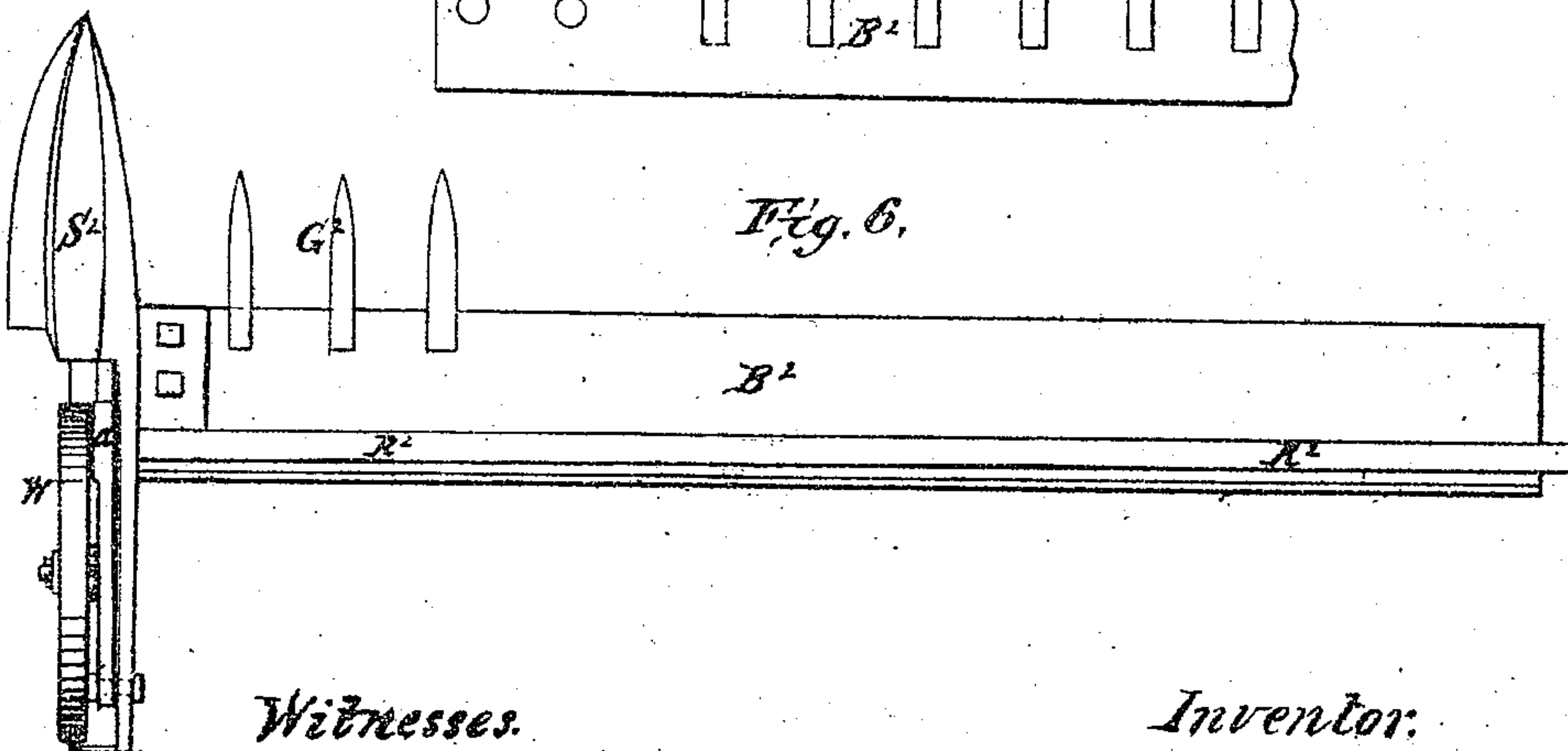


Fig. 6.



Witnesses.

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Fig. 2.

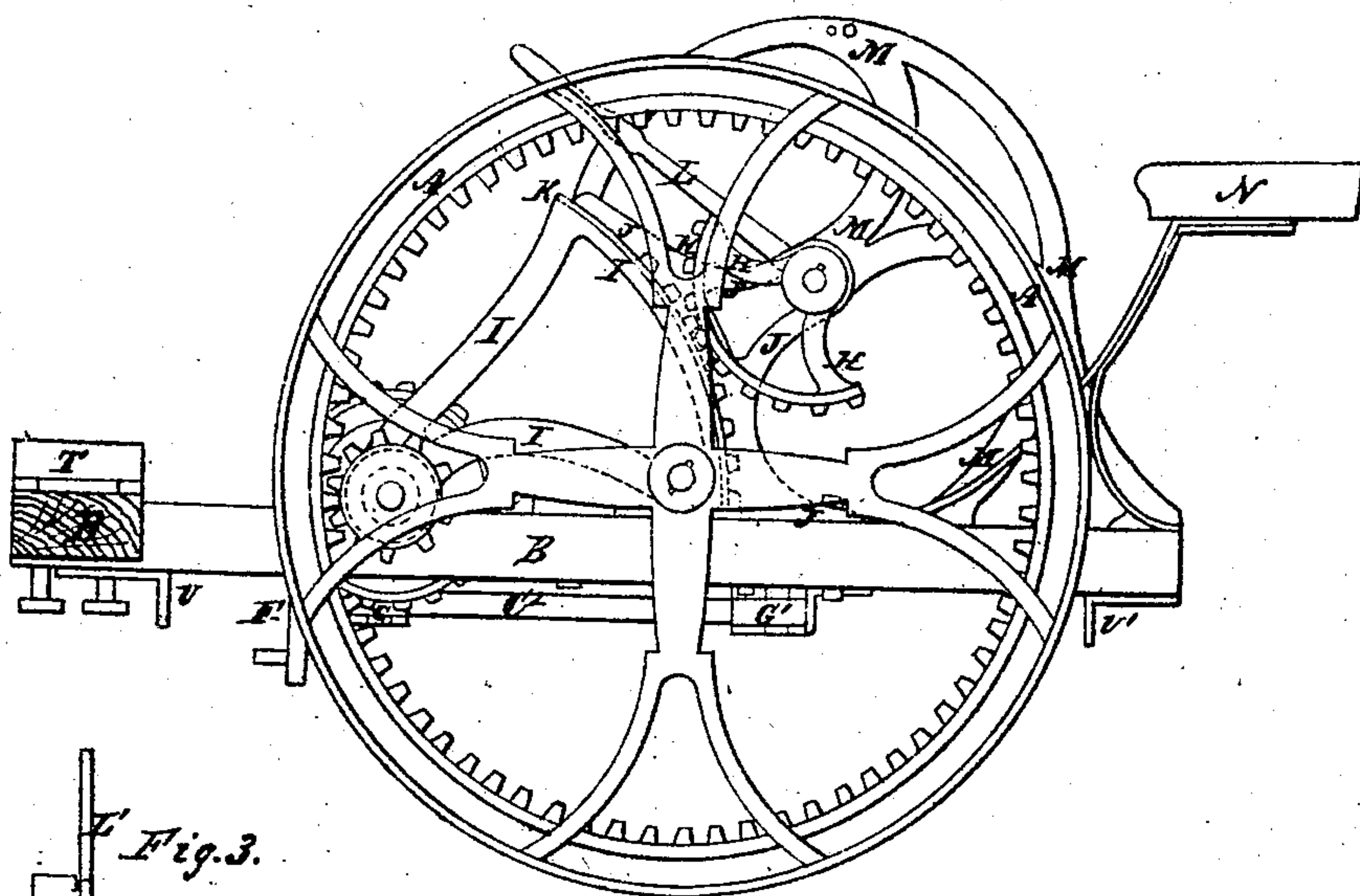


Fig. 3.

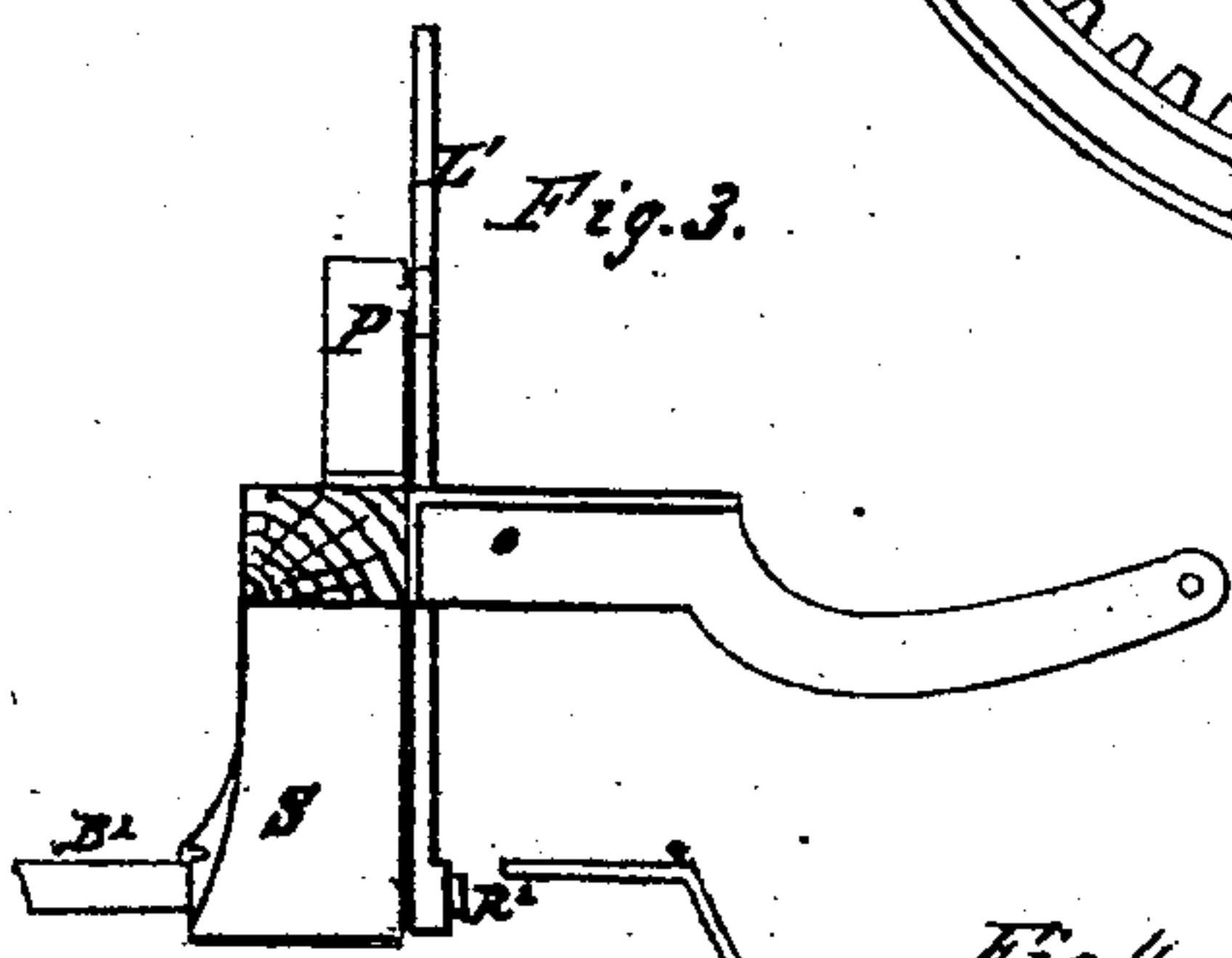


Fig. 8.



Fig. 7.



Fig. 4.

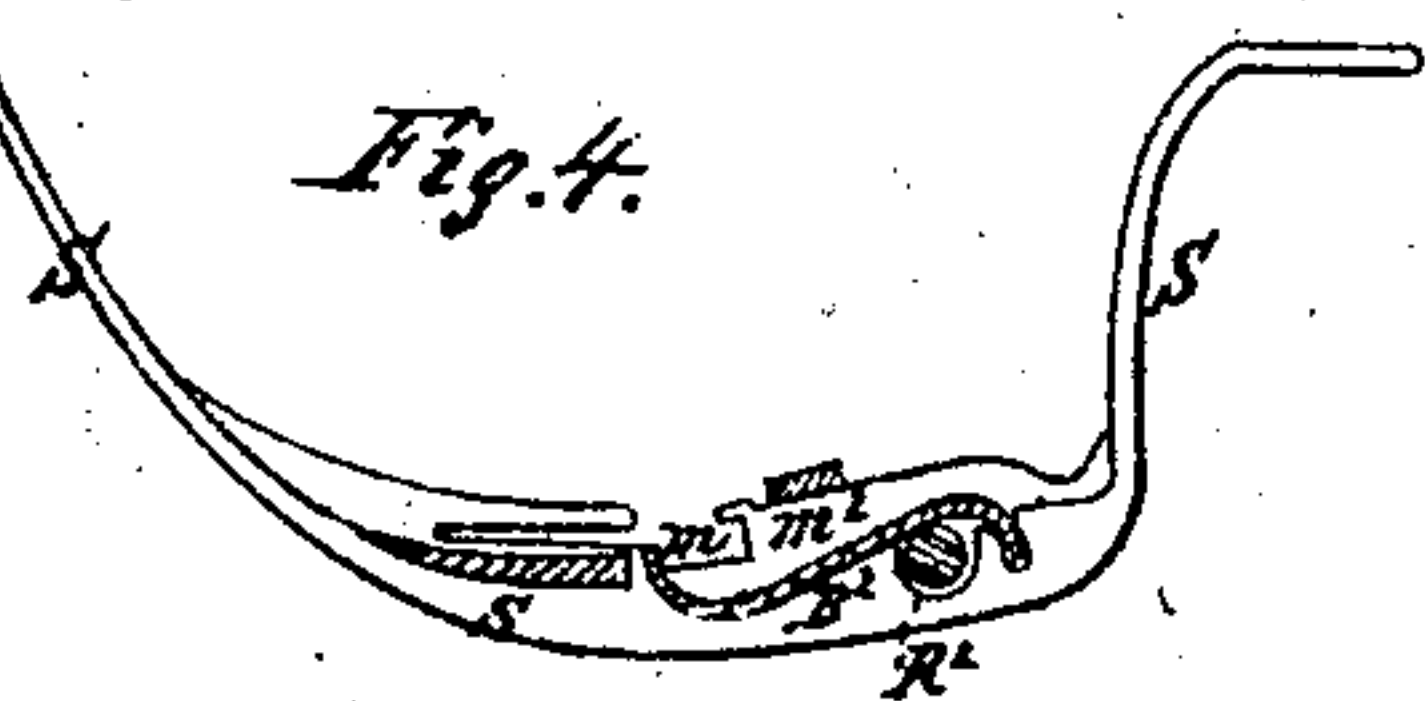
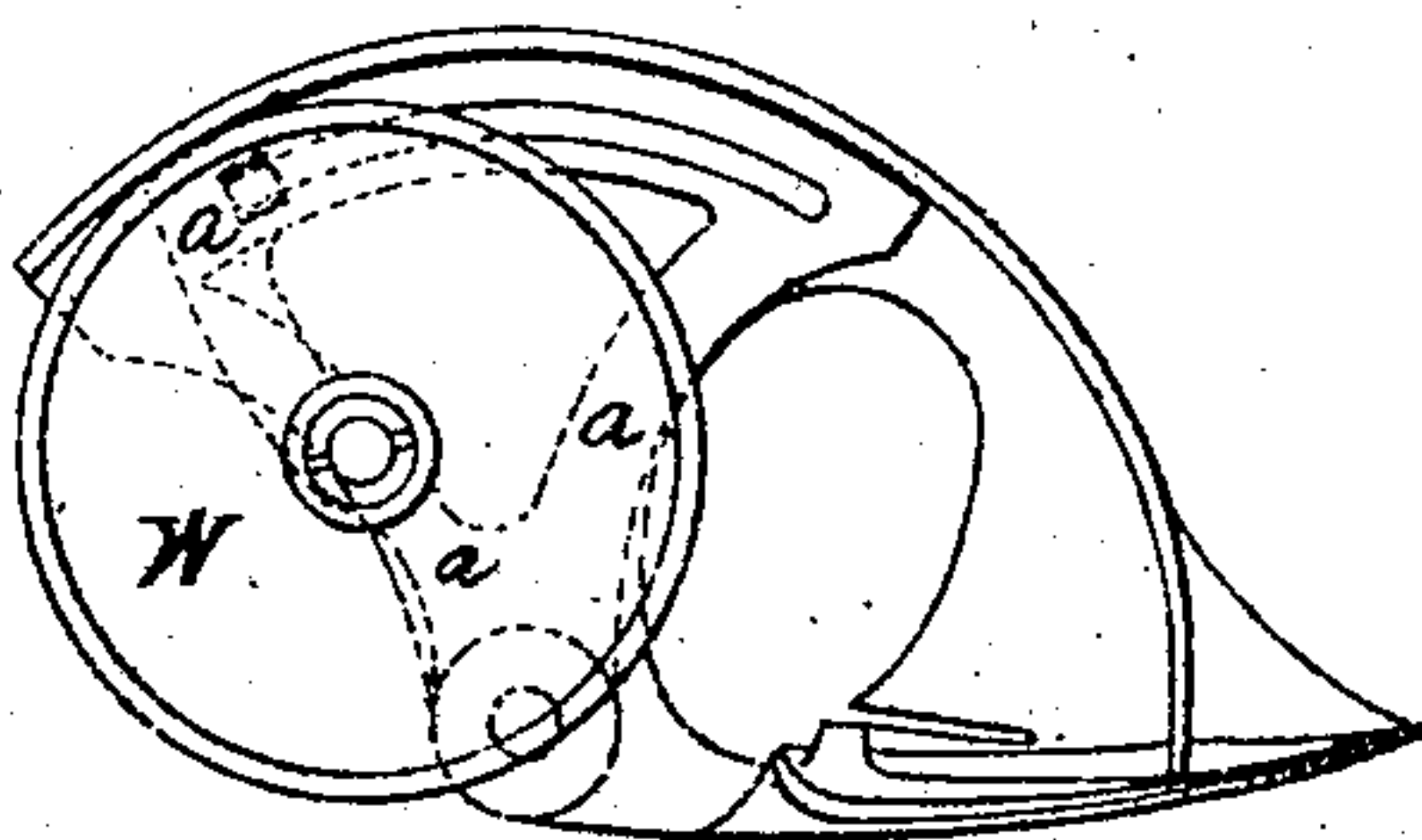


Fig. 9.



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UNITED STATES PATENT OFFICE.

H. A. PARKHURST, OF FAIRFIELD, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 19,442, dated February 23, 1858.

To all whom it may concern:

Be it known that I, HAMILTON A. PARKHURST, of Fairfield, in the county of Herkimer and State of New York, have invented certain new and useful improvements in Harvesting-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

The nature of my invention consists, first, in connecting the finger-bar to the main frame by means of an intermediate frame, the same being hinged to the front and rear timbers of the main frame on a line with the crank-shaft, as hereinafter described; second, in the mode herein described for raising and lowering the main frame so as to adapt the machine for mowing and reaping; third, the plan and construction of my finger-bar and guards and the manner of securing the guards to the finger-bar and of operating the cutters therein present the following distinguishing features: first, the finger-bar is made in an ogee form; second, the base of the guard is made to conform to the ogee form of the finger-bar, so as to rest upon the upper side thereof and support the cutter-bar, a mortise being made through the front curve of the finger-bar, through which the guard passes, the under part of the slot being on a level with the edge of the finger-bar; third, in locating the cutter-bar in rear of the front edge and over the finger-bar, so as to allow the cutting-edge of the cutters to cross the edge of the finger-bar and clip the grass or grain as near as possible to the finger-bar.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the annexed drawings, making a part of this specification.

Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is an end elevation of the hinged frame and inside shoe. Fig. 4 is a side elevation of the inside shoe to which the finger-bar is connected. Fig. 5 is a plan of a portion of the finger-bar, cutter-bar, guards, and cutters as arranged together. Fig. 6 is a plan of the cutter-bar, guards, and outside shoe, shown bottom side up. Fig. 7 is a section of the finger-bar and guard, showing their

connection with each other. Fig. 8 is a front elevation of the finger-bar, showing the mortises through which the guards pass. Fig. 9 is a side elevation of the outside shoe and carrying-wheel.

A is the driving-wheel, Figs. 1 and 2; A', bearing-wheel; B, main frame; B', hinged frame, which also includes the castings O and O'. The finger-bar, by means of its connection to the inside shoe, is also connected to this frame, so that when connected to the main frame the whole will hinge or turn on the bolts p' and p'' , and a perfect adaptability of the finger-bar to uneven ground is thereby effected. C, shaft of pinion and bevel-wheel; C', shaft of small bevel and spur wheel; C², crank-shaft; D, shaft which supports segment-gear H and H'; J J, standards which support the shaft D. These standards are bolted firmly to the main frame. K, cast-iron frame, which turns on the journal-boxes of shaft C, the journal-boxes being extended and fitted for this purpose. The driving-wheel A and bearing-wheel A' are connected to this frame by separate axles. The geared segments I and I' are also supported on this frame. These segments mesh in with segments H and H', and by means thereof the main frame can be raised and lowered as desired. The lever L is connected to the shaft D, and is operated by the driver while on his seat, and gives him power to work the segment-gearing, and thereby to raise and lower the main frame as he pleases.

M is an arch, which is connected to the standard J next to the bearing-wheel. This serves the purpose of holding the lever L at any point in its sweep, and thereby fixing the frame at any height desired. A pin projects from the lever, and notches or holes are made in the arch, into which the pin catches. E, connecting-rod; G G', pillar-blocks and bearings for crank-shaft; $w w$, brackets, to which the hinged frame is connected. These brackets are bolted fast to the main frame and bring the joints or hinges of the hinged frame on a line, or nearly so, with the crank-shaft. This arrangement gives a flexibility to the finger-bar and allows it to conform to the uneven surface of the ground independent of the position of the main frame and driving and bearing wheels. This arrangement also preserves the same relative distance between the crank-shaft and guards and in-

sure the proper working of the knives in the guards in all the varying positions in which the machine may be placed.

P¹ and P² show the bolts or pins which form the connection or hinges of the frame B'.

P is a bar of iron, bent in a circular form and bolted to the frame B', and is for the purpose of holding the lever L' in any required position; O, Fig. 3, casting, which forms a part of the hinged frame B'. It is firmly bolted to the wood part B', from which it projects. A similar casting (and connected in a similar manner) is represented at O', Fig. 1. By means of these castings a connection can be formed with the main frame (in front and rear) at about midway between the driving and bearing wheels. This arrangement prevents a "side draft," and relieves the drag of the finger-bar upon the ground. S, inside shoe; R², iron rod, which is supported on the under side of the finger-bar, and which connects with the segment a of the outside shoe; L', lever connected to the rod R² for the purpose of turning the same, and thereby moving the segments a, Fig. 9, and thereby changing the height of the outer end of the finger-bar; S, Fig. 4, inside shoe, to which the finger-bar is connected. This shoe is bolted to the under side of the frame B' and held rigidly thereto.

B² shows the end of the finger-bar, and the manner of its connection to and support in the shoe. M² is a grooved cap-piece of the same width of the shoe. Bolts pass through this cap-piece and finger-bar and lower part of the shoe, and the finger-bar is thereby compressed and held firmly. A groove, M³, is made in this cap-piece, in which the heel of the cutter-bar works. R², end of rod, which passes on the under side of the finger-bar and connects with the outside shoe.

Fig. 5 is a plan of a portion of the finger-bar B², cutter-bar C B, cutters K', and guards G² as arranged together. This arrangement brings the cutter-bar in rear of the front edge of the finger-bar, and thereby prevents all possibility of clogging between the back of the cutter-bar and finger-bar. It also enables me to use a shorter guard, and consequently a guard of less metal and less weight. It also enables me to sever the stalks of grass or grain close to the finger-bar, and renders the grass less liable to lodge or "bank" thereon. The ogee form of the finger-bar enables me to make it thinner, and consequently a less amount of metal and less weight. It may be given the proper form at the rolling-mills, or it may be forged. This form of bar also gives greater strength and stiffness, with a less amount of metal than any form heretofore adopted within my knowledge.

Fig. 6 is a plan of the finger-bar guards and outside shoe, bottom upward. The rod R² passes along on the bottom of the finger-bar in the curve and connects with the segment a.

Fig. 7 is a section of the finger-bar and guard, and shows how the guard fits onto the finger-bar. The guard passes through the mortise c, Fig. 8, and rests upon the upper side of the finger-bar, and is held firmly thereon by the rivet n, which passes through both.

Fig. 8 is a front elevation of the finger-bar, for the purpose of showing more distinctly the mortise c, through which the guard passes. The guard just fills this mortise, and is thereby held firmly in its place, and is prevented from working sidewise or becoming loose. The guard may be made of malleable iron or forged.

W, Fig. 9, is a carrying-wheel. This is connected to the segment a, a segment which is made fast to the rod R². The whole is operated by moving the lever L'.

The drawings are made on a scale of one and one-half inch to the foot for Figs. 1, 2, 3, and two inches to the foot in each of the other figures.

Having now described my invention of improvements sufficiently clear and full to enable a mechanic skilled in the art to make and use the same, I will make the following claims: I do not claim connecting the finger-bar to the main frame by a hinge-joint; neither do I claim a double-jointed coupling-piece; but

I claim—

1. Connecting the finger-bar to the main frame by means of the intermediate frame, B', O, and O', the same being hinged to the front and rear cross-timbers of the main frame on a line, or nearly so, with the crank-shaft, for the purpose of relieving the drag of the finger-bar upon the ground and allowing it to conform to uneven surfaces without varying the throw of the cutters through the guards, substantially as herein set forth.

2. The arrangement of the mechanism, as herein described, for the purpose of raising and lowering the main frame of the machine.

3. Making the finger-bar in the ogee form, so that the base of the guards may be placed upon and fastened to the upper side thereof, and at the same time support the cutter-bar in rear of the front curve of the finger-bar, substantially as herein set forth.

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Witnesses:

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