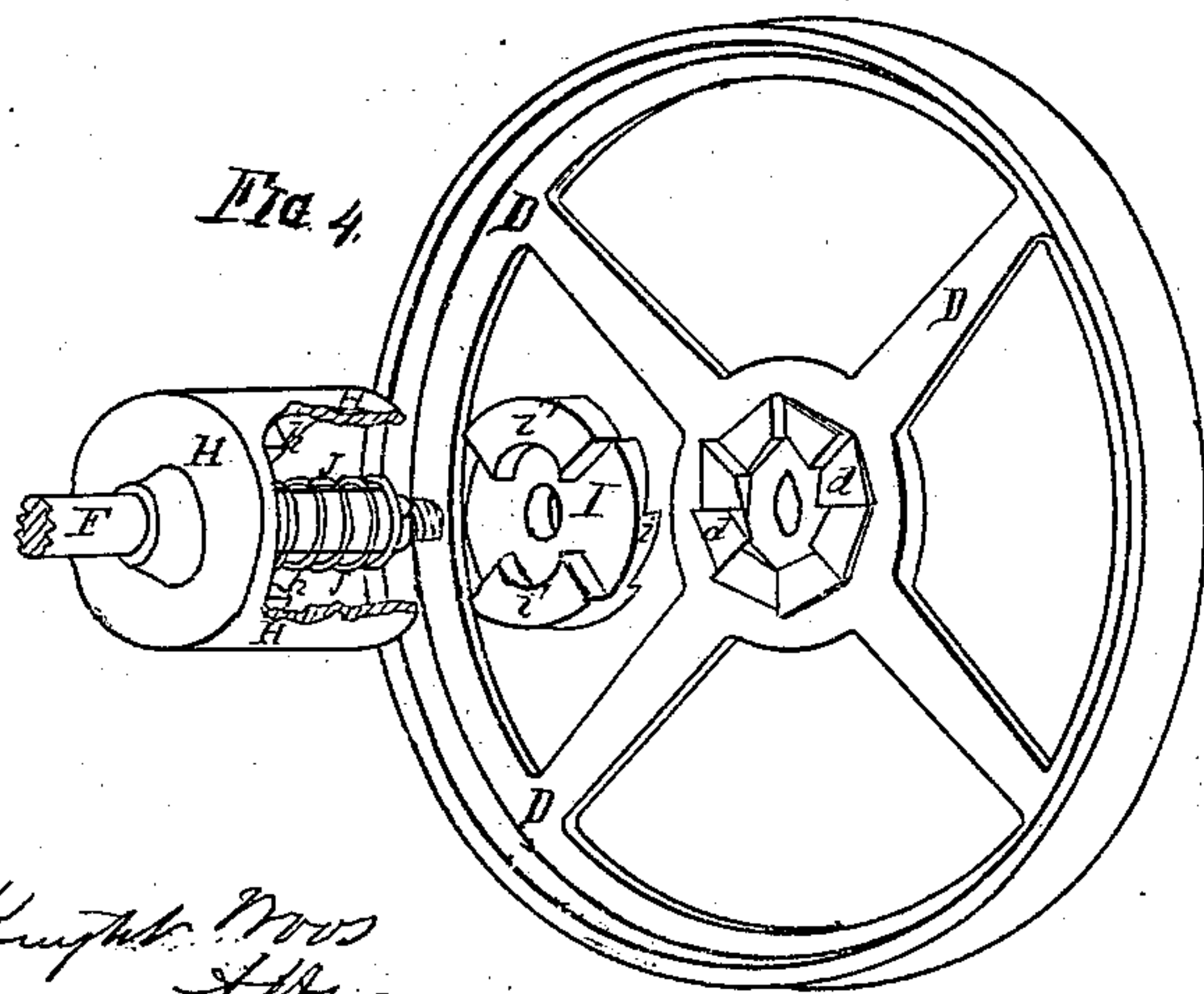
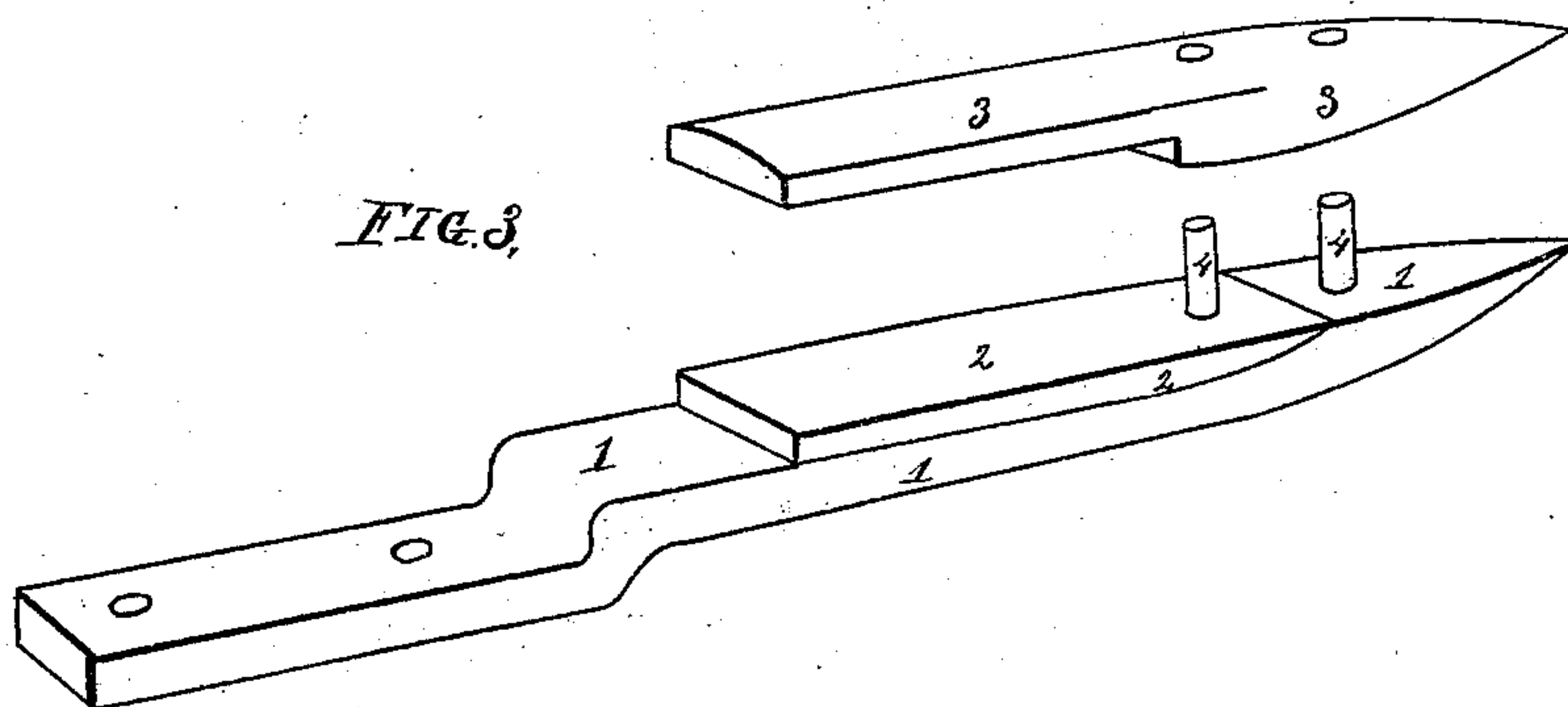
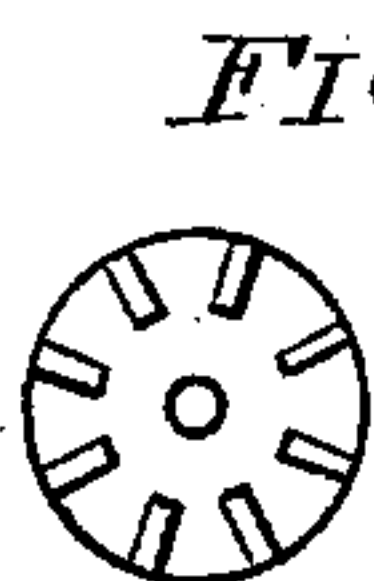
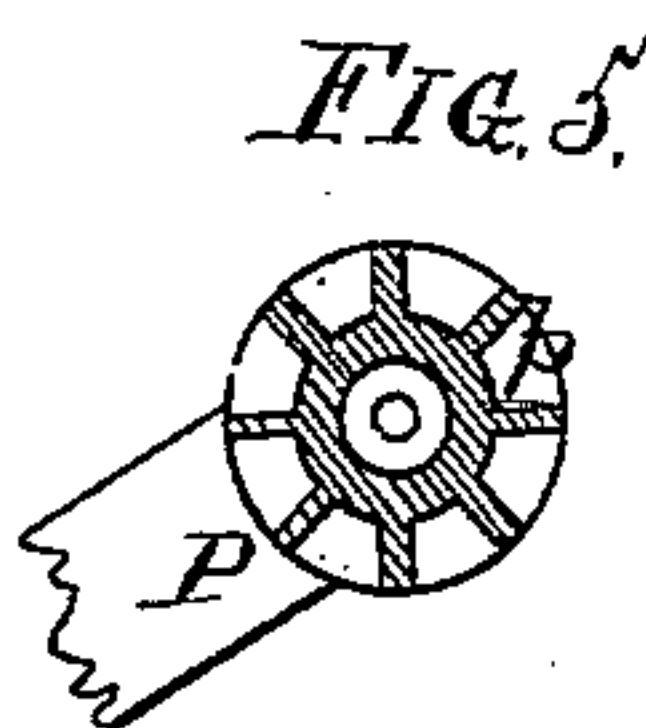
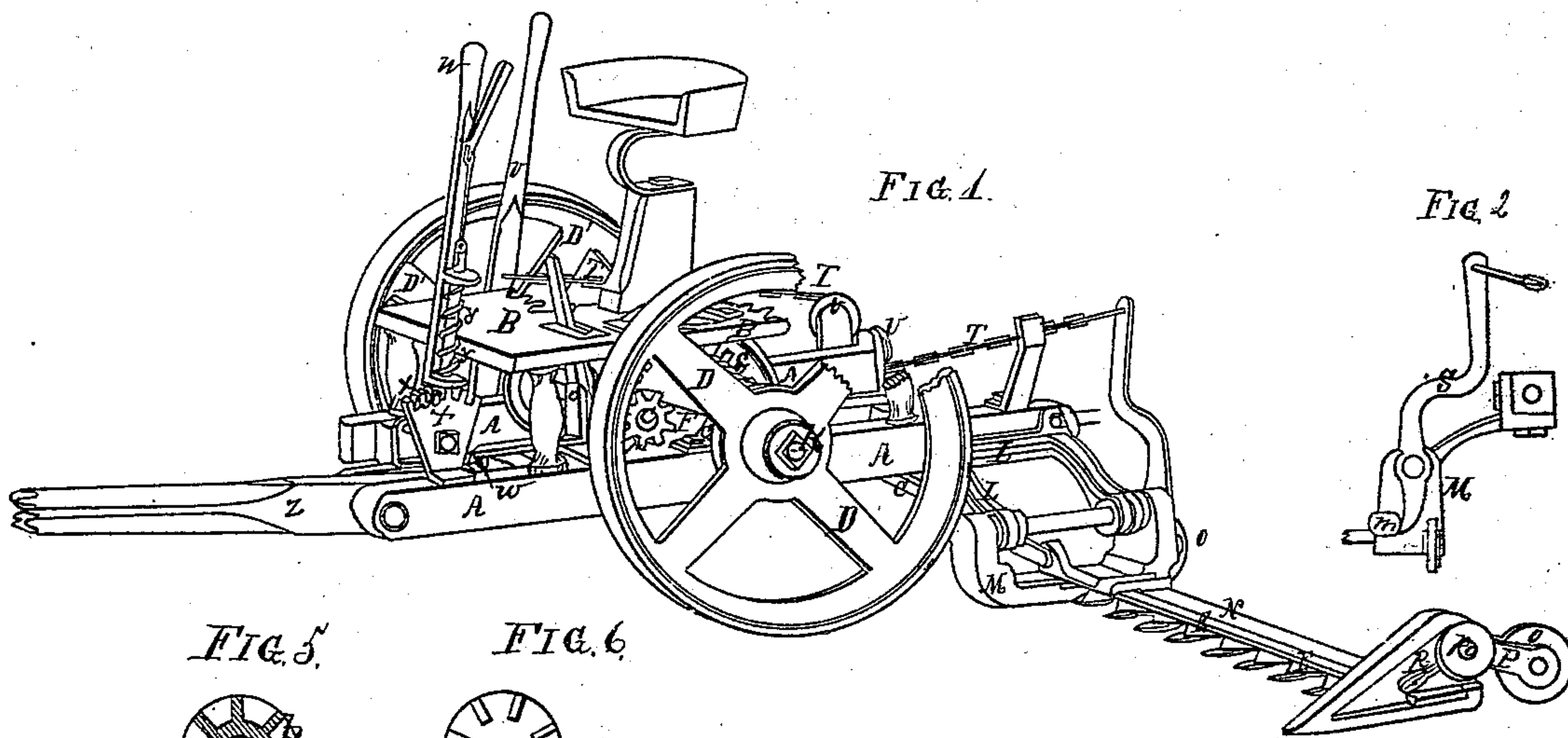


Lighter & Curtis.

Mower.

N^o 84887

Patented Dec. 15, 1868.



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ATTEST

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Letters Patent No. 84,887, dated December 15, 1868; antedated December 3, 1868.

IMPROVEMENT IN HARVESTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that we, SAMUEL K. LIGHTER and JOSEPH CURTIS, both of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Harvesters; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Our improvements consist in an improved ratcheted connection of the ground-wheels to the axle, and a novel and simple adjustable caster for supporting the finger-bar.

Figure 1 is a perspective view of a machine embodying our improvements;

Figure 2 is a side elevation of one of the elevating-levers;

Figure 3 is an enlarged perspective view of a guard;

Figure 4 shows the parts of the ratchet-movement detached; and

Figures 5 and 6, detached views respectively of the toothed face of the head of the finger-bar, supporting-caster, and an arrangement of studs on the ends of the finger-bar, to engage with said toothed head, to hold the caster in its different positions.

The frame A, platform B, and mechanism C for transmitting motion from the ground-wheels D D', to the cutter-bar E, may be of any approved construction, and require no specific description, except for the ratcheted connection of the ground-wheels with the main shaft F, which connection we believe superior to any heretofore employed, and will therefore more particularly describe.

G is one of the stands or boxes, in which the main shaft F revolves, said boxes being bolted upon the main frame A, at about its mid-length.

Keyed fast to main shaft F, just outside of its journal-boxes G, are hubs H; said hubs being recessed to receive ratchet-rings I.

On one side of ratchet-rings I are ratcheted teeth *i*, and on the other side of said rings are projections *i'*, which engage, as clutches, with similar projections, *h*, cast on the outer ends of the hubs H.

On the ends of main shaft F, and against the projecting margins of the hubs H, are placed the ground or driving-wheels D D', on whose inner sides are cast ratchet-teeth *d*, which bear such relation to the ratchet-teeth on the loose rings I, that when the machine is moved forward, the rings, by means of the ratchet-teeth, engage fast in the teeth of the wheels, thereby causing a continuous motion of the main shaft F, the ratchet-rings being thrown out, and attaching themselves to the wheels D D' by spiral springs J in hubs, but, in backward motion, the said ratchet-teeth reverse their relation to each other, so as to produce no motion whatever on the driving-shaft F, the wheels D D' revolving loosely on the shaft.

The wheels D D' are retained on the shaft by means of nuts K screwed fast thereto.

To one side of main frame A, at the rear end of same, is attached a bracket, L, to which is hinged the shoe M, which carries the finger-bar N.

The outer extremity of the finger-bar has a caster, O, journaled in a hanger, P, whose toothed or serrated head *p* is secured to end of bar by pivot-bolt Q, and receives a pawl, R, or else engages in a corresponding boss on the bar, as shown in fig. 6; its supporting-pivot in that case consisting of a set-screw, or equivalent device, to allow it to be readily withdrawn from said boss, and set up to it again in adjusting the caster, to hold it to any desired position.

The inner extremity of said bar may have a similar caster, O'.

Pivoted to rear end of shoe M is a lever, S, whose lower extremity, acting against a boss, *m*, on the shoe, becomes effective for lifting the bar to clear a stump or other obstruction.

In order that this action may be under control of the operator, a chain, T, attached to the upper end of the lever S, being carried over pulleys U, is made fast to a lever, V, convenient to the hand of the operator.

In order to enable the operator to elevate the entire finger-bar when desired, I provide, convenient to the hand of the operator, a lever, W, which is pivoted to a segment-rack, X, on the main frame, and has a shot-bolt, Y, adapted to take into either one of a series of notches, *x*, and a heel, *w*, which, bearing against the heel-portion of the draught-pole Z, acts, by elevating the entire rear portion of the main frame, to, at the same time, elevate the finger-bar bodily from the ground.

To the finger-bar are attached the guards or fingers made in the following manner:

The lower part, 1, is made of wrought-iron, of the proper size and shape, and has a bit or piece of steel, 2, welded at the proper place, to support the sickle, and to afford a cutting-edge in coaction therewith.

The bit having been welded in place, the entire piece is swaged into the proper shape by means of a suitable hammer, die, or press, and afterward brought to the right temper for cutting-purposes. The bit-portion is then ground to a smooth surface, for the play of the sickle, and ground to a fine cutting-edge.

The cap or top part 3 is a separate piece, of wrought or malleable iron, and is firmly secured to the lower part by means bolts or rivets 4, and welded at the point.

We claim herein as new, and desire to secure by Letters Patent—

1. The arrangement, within the hubs H on the shaft F, of the ratcheted rings I *i i'*, the lugs or projections *h*, cast on the heads of said hubs H, the ratchet-teeth *d* on the ground-wheels D, and the coiled spring J, as, and for the purpose specified.

2. The finger-bar, supporting caster O P, adjustable by means of the serrated or toothed head *p* and pawl R, or its described equivalent, substantially as set forth.

In testimony of which invention, we hereunto set our hands.

S. K. LIGHTER.
J. CURTIS.

Witnesses:

GEO. H. KNIGHT,
A. W. ECKERT.