

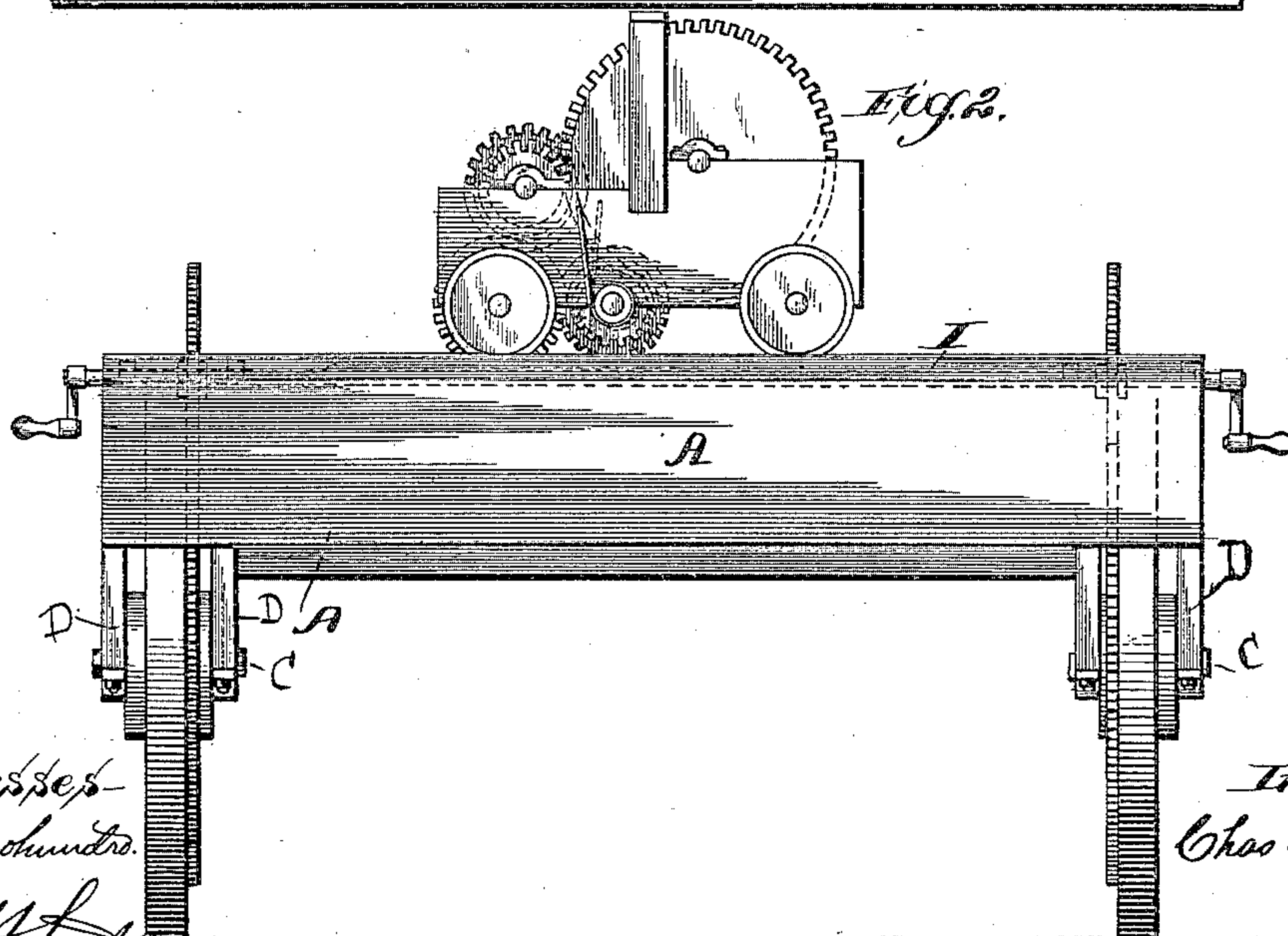
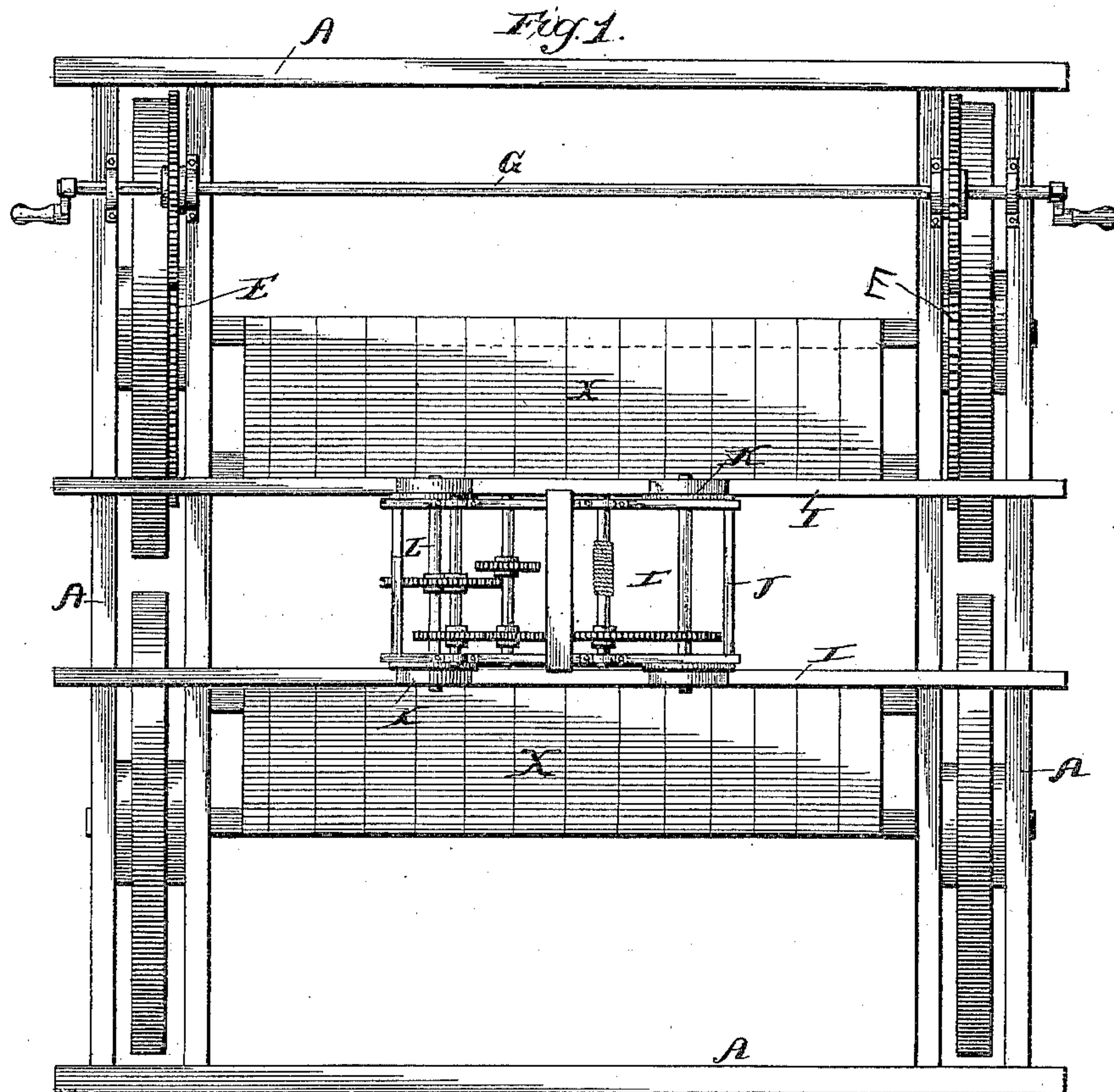
(No Model.)

2 Sheets—Sheet 1.

C. REYNOLDS.
STONE SETTING MACHINE.

No. 408,326.

Patented Aug. 6, 1889.



Witnesses-
W. R. Quokumdro.

Wm. W. Felt.

Inventor:
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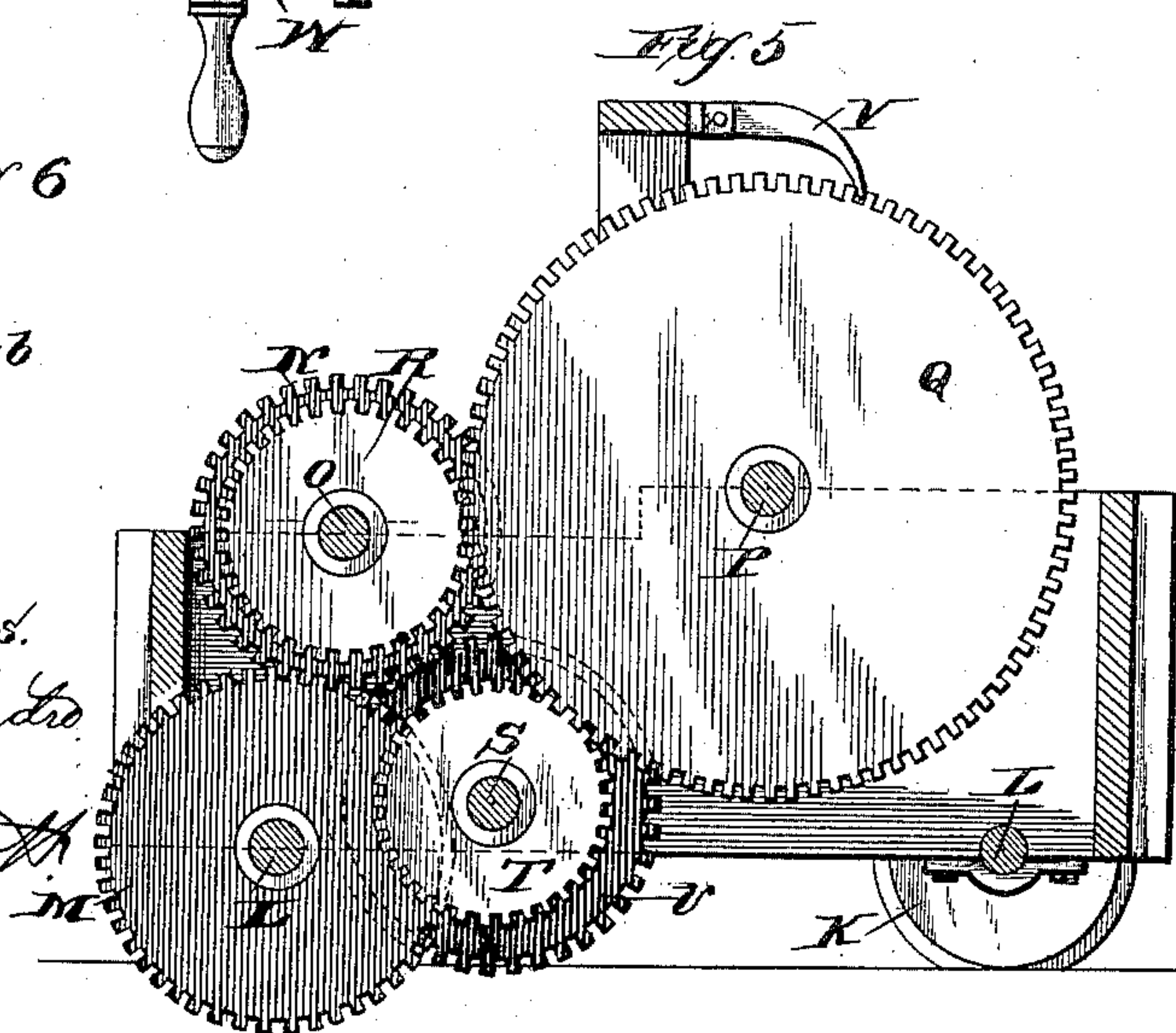
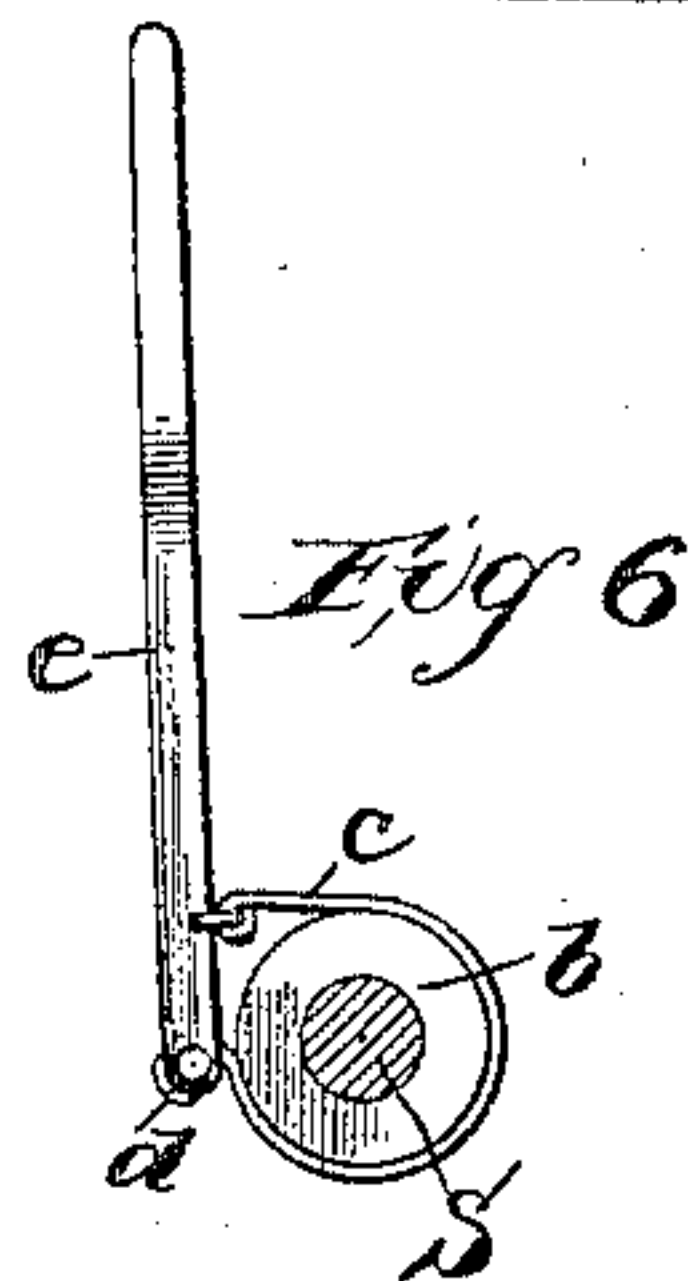
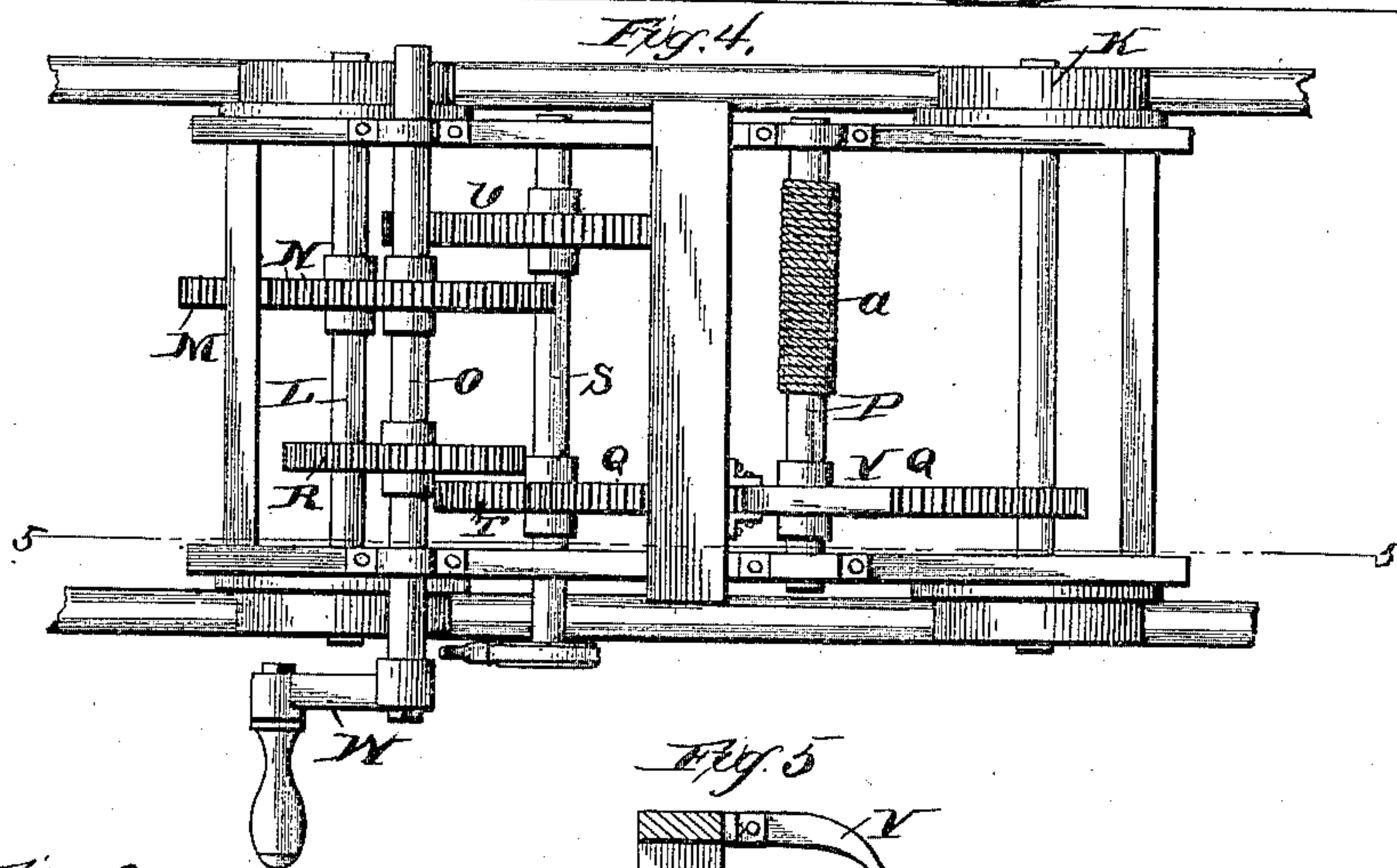
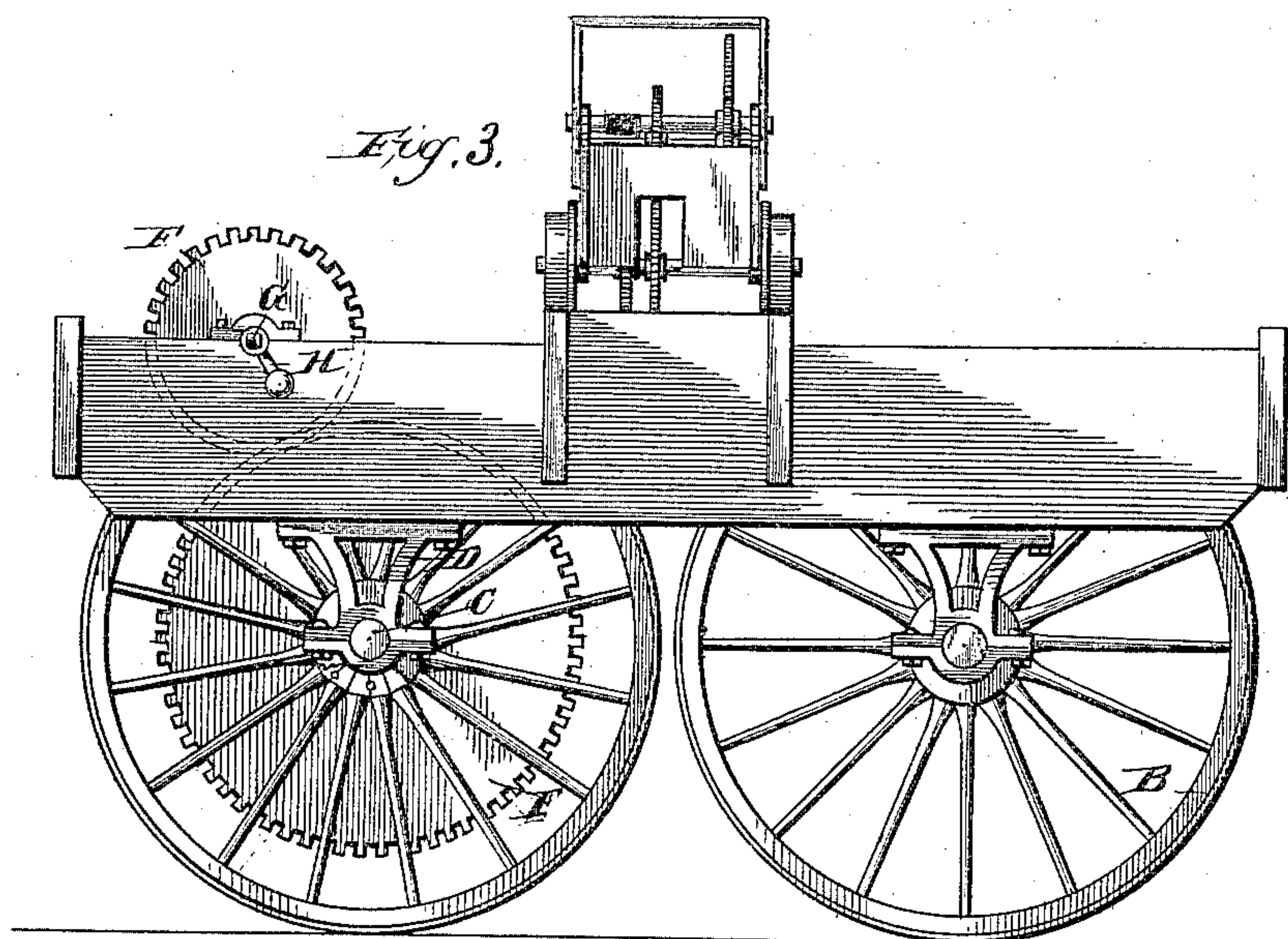
(No Model.)

2 Sheets—Sheet 2.

C. REYNOLDS.
STONE SETTING MACHINE.

No. 408,326.

Patented Aug. 6, 1889.



Witnesses.
H. R. Bushnell
Wm. H. Smith

Inventor
Charles Reynolds
By
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UNITED STATES PATENT OFFICE.

CHARLES REYNOLDS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JAMES McGUIRE, OF SAME PLACE.

STONE-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 408,326, dated August 6, 1889.

Application filed May 1, 1889. Serial No. 309,223. (No model.)

To all whom it may concern:

Be it known that I, CHARLES REYNOLDS, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stone-Setting Machines, of which the following is a specification.

This invention relates to that class of machines employed for setting heavy stones on the walls of buildings in course of erection, by means of which the stones are taken by the machine from a pile and carried thereby upon a suitable track to the position they are designed to occupy upon the wall of the building, onto which they are lowered and set by suitable hand operated and controlled mechanism, forming part of the machine.

The prime object of this invention is to produce a machine of this class of simple and economical construction, but possessing great durability and capable of ready manipulation by the operators.

Another object is to have the hoisting apparatus of the machine of such a character that either a single or double "purchase" or leverage may be exerted upon the hoisting-drum at the will of the operator, whereby the lighter stones may be more rapidly hoisted and the heavier stones elevated at the expense of little more power than is required for the elevation of the lighter stones.

A still further object is to have the operating mechanism of the machine adjustable in such manner that it may be alternately employed for operating the carriage carrying the hoisting mechanism, or the hoisting mechanism itself, whereby the simplicity of the machine is greatly promoted and the cost of construction and difficulty of operation correspondingly reduced.

I attain these objects by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of a stone-setting machine embodying my invention; Fig. 2, an end elevation thereof; Fig. 3, a side elevation; Fig. 4, an enlarged detail plan view of the carriage carrying the hoisting mechanism; Fig. 5, a vertical section thereof on the

line 5 5 of Fig. 4, and Fig. 6 a detail elevation of the brake for controlling the hoisting-drum in lowering the stone in position.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates a rectangular frame mounted, preferably, upon four ground-wheels B, two at each side thereof, which wheels are designed to travel upon a portable track set above the walls of a building in any well-known and convenient manner. These wheels are of sufficient height—say four to five feet—to elevate the frame of the machine above the ground enough to clear ordinary stones, and thus when run upon the ground may readily pass over a number of stones in order to reach the desired stone without the necessity for moving any of the intermediate stones. These wheels are provided with or journaled upon suitable short axles C, preferably bearing in brackets D, attached to the under side of the frame, and a pair thereof, at opposite sides of the machine, are provided with rimmed cogs E, secured to the spokes thereof, with which engage smaller cog-wheels F, secured upon a transverse shaft G, journaled upon the frame of the machine, upon the outer end of which is also mounted a crank-handle H, for operating said shaft, through the medium of which the machine may be caused to travel back and forth upon its track, or upon the ground, if desired.

Upon the frame A, about the center of and extending transversely across the same, is mounted a pair of parallel tracks I, upon which works a carriage J, mounted upon flanged wheels K, fixed upon the ends of rotatable axles L, bearing in the frame of the carriage. Upon one of said axles is fixedly mounted a cog-wheel M, with which is designed to engage a corresponding cog-wheel N, fixed upon a longitudinally-slidable shaft O, loosely journaled upon the carriage in such manner that the shaft may be slid longitudinally, and the gear-wheel N, mounted thereon, thus thrown out of mesh with the gear-wheel M upon the axle L. On the carriage is also journaled a drum P, forward of

the slidable shaft O, upon which drum, near one end, is rigidly mounted a large cog-wheel Q, with which meshes a smaller cog-wheel R, (mounted upon the slidable shaft O,) but
 5 only when the wheels M and N are out of gear. In the carriage is also journaled loosely, and below the slidable shaft and the drum, a longitudinally-fixed but rotatable shaft S, upon which, toward one end, is mounted a
 10 small cog-wheel T, permanently in gear with the wheel Q upon the drum, while toward the opposite end thereof is fixed a larger gear-wheel U, adapted and arranged to mesh with the gear-wheel N upon the slidable shaft,
 15 but only when said wheel is out of mesh with the cog-wheel M, at which time also the cog-wheel R will also be out of engagement with the cog-wheel Q upon the drum.

To the frame of the carriage, at some suitable point, is pivotally secured a dog V, for engaging the cog-wheel Q upon the drum, and thus preventing a reverse rotation of said drum when desired, and upon one or both ends of the slidable shaft O is fixed a crank
 25 handle or handles W, for convenience of rotating and sliding said shaft in its bearings, the frame of the machine being preferably provided with suitable platforms X at each side of the tracks I, upon which the operator
 30 may stand.

In operation, when the machine has been rolled to a proper position over a stone which it is desired to set upon the building-wall, a suitable pair of grappling-tongs (not shown)
 35 secured to the end of the rope *a*, wound upon the drum P, grapples the stone, which, if light, may be quickly lifted clear of the ground and all intervening obstructions by sliding the shaft O so as to cause the gear-wheel R
 40 thereon to mesh with the cog-wheel upon the drum, in which position it will be held by the dog V; but if the stone be of considerable weight and it is desirable to secure a double purchase or leverage upon the drum the shaft
 45 O may be slid in the opposite direction until the cog-wheel N thereon meshes with the wheel U upon the supplemental shaft S, which, through the medium of the cog-wheel T thereon meshing with the cog-wheel Q on
 50 the drum, will transmit the power applied to the shaft O. After the stone has been hoisted the machine carried upon the ground-wheels B is run onto the portable track provided for its reception until the stone reaches a proper
 55 position above the wall upon which it is set, when the shaft O will be again slid in its bearings until the cog-wheel N thereon meshes with the cog-wheel M upon the axle of the carriage, when, by means of the crank W, the
 60 carriage carrying the stone and entire hoisting apparatus may be readily moved along the tracks I of the machine laterally to the direction in which the machine as a whole is moved until the stone reaches its exact position
 65 above the wall of the building when it is ready to be lowered and set thereon. In accomplishing this last action, instead of con-

trolling the unwinding of the rope upon the drum which permits the lowering of the stone through the medium of the slidable shaft and
 70 crank thereon, which might be done, I prefer to render the operation less laborious by employing a friction-brake, preferably consisting of a friction-pulley *b*, mounted upon one end of the supplemental shaft S, which pulley is
 75 encompassed by a flexible friction-band *c*, fixedly secured to a pin *d*, or in any other suitable manner at one end, and at its opposite end to a lever *e*, preferably pivoted upon the pin *d*, by means of which lever the band may
 80 be tightened upon the pulley and thus exert a frictional resistance to the rotation of the supplemental shaft S sufficient to prevent and control the rotation of the drum when the dog V is thrown out of gear.
 85

From the foregoing it will be readily understood that the entire machine may be easily moved along upon either the ground or a suitable track by operating the crank H, and that the hoisting apparatus and the carriage carrying the same may be successively
 90 and independently operated by one and the same crank, and either a single or double purchase or leverage be obtained in operating the hoisting apparatus, as a result of which
 95 an economical, durable, and effective apparatus is provided for carrying and setting stones with exactness upon the walls of a building and at the minimum expense of time and labor.
 100

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

1. In a stone-setting machine, the combination, with the carrying-frame, the ground-wheels thereof, and the transverse parallel
 105 tracks on said frame, of a carriage working on said track, a drum loosely journaled in said carriage, a slidable shaft also journaled on said carriage, cog-wheels on said drum and
 110 an axle of the carriage, and cog-wheels on said slidable shaft, adapted and arranged to alternately engage the cog-wheels on said axle and drum, substantially as described.

2. In a stone-setting machine, the combination, with the carrying-frame, the ground-wheels thereof, and a pair of transverse tracks
 115 upon said frame, of a carriage working upon said track, a drum journaled on said carriage, a supplemental shaft also journaled in said
 120 carriage, a permanent gear-connection between said supplemental shaft and drum, a slidable shaft also journaled on said carriage, and a gear-wheel thereon adapted and arranged to alternately mesh with cog-wheels
 125 upon said supplemental shaft and an axle of the carriage, substantially as described.

3. In a stone-setting machine, the combination, with the carrying-frame, the ground-wheels thereof, and a pair of transverse tracks
 130 upon said frame, of a carriage working upon said track, a drum journaled on said carriage, a supplemental shaft also journaled on said carriage, a permanent gear-connection between

said supplemental shaft and drum, a slidable shaft also journaled on said carriage, and a pair of gear-wheels mounted thereon, one of which is arranged to mesh with a gear-wheel on the drum and the other to alternately mesh with gear-wheels upon the supplemental shaft and axle when the other wheel is out of gear with the drum cog-wheel, substantially as described.

10 4. In a stone-setting machine, the combination, with the carrying-frame, the ground-wheels thereof, and a pair of transverse tracks upon said frame, of a carriage working upon said track, a drum journaled on said carriage,
15 a supplemental shaft also journaled on said carriage, a permanent gear-connection between said shaft and drum, a slidable shaft also journaled on said carriage, a pair of gear-wheels mounted thereon, one of which
20 is arranged to mesh with the gear-wheel on the drum and the other to alternately mesh with gear-wheels upon the supplemental shaft and axle of the carriage when the other wheel is out of gear with the drum cog-wheel, a
25 friction-pulley upon the supplemental shaft, a friction-band encompassing the same, and

a lever for operating said band, substantially as described.

5. In a stone-cutting machine, the combination, with the carrying-frame, the ground- 30 wheels thereof, cog-wheels attached to said ground-wheels, a supplemental shaft journaled in said frame, cog-wheels thereon meshing with the cog-wheels on the ground-wheels, and a pair of transverse tracks upon said 35 frame, of a carriage working upon said tracks, a drum journaled on said carriage, a supplemental shaft also journaled on said carriage, a permanent gear-connection between said shaft and drum, a slidable shaft also jour- 40 naled on said carriage, and a pair of gear-wheels mounted thereon, one of which is arranged to mesh with a cog-wheel on the drum and the other to alternately mesh with gear- 45 wheels on the supplemental shaft and an axle of the carriage when the other wheel is out of gear with the drum cog-wheel, substantially as described.

CHARLES REYNOLDS.

Witnesses:

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