

(No Model.)

2 Sheets—Sheet 1.

R. MARQUART.
STONE DRESSING MACHINE.

No. 563,499.

Patented July 7, 1896.

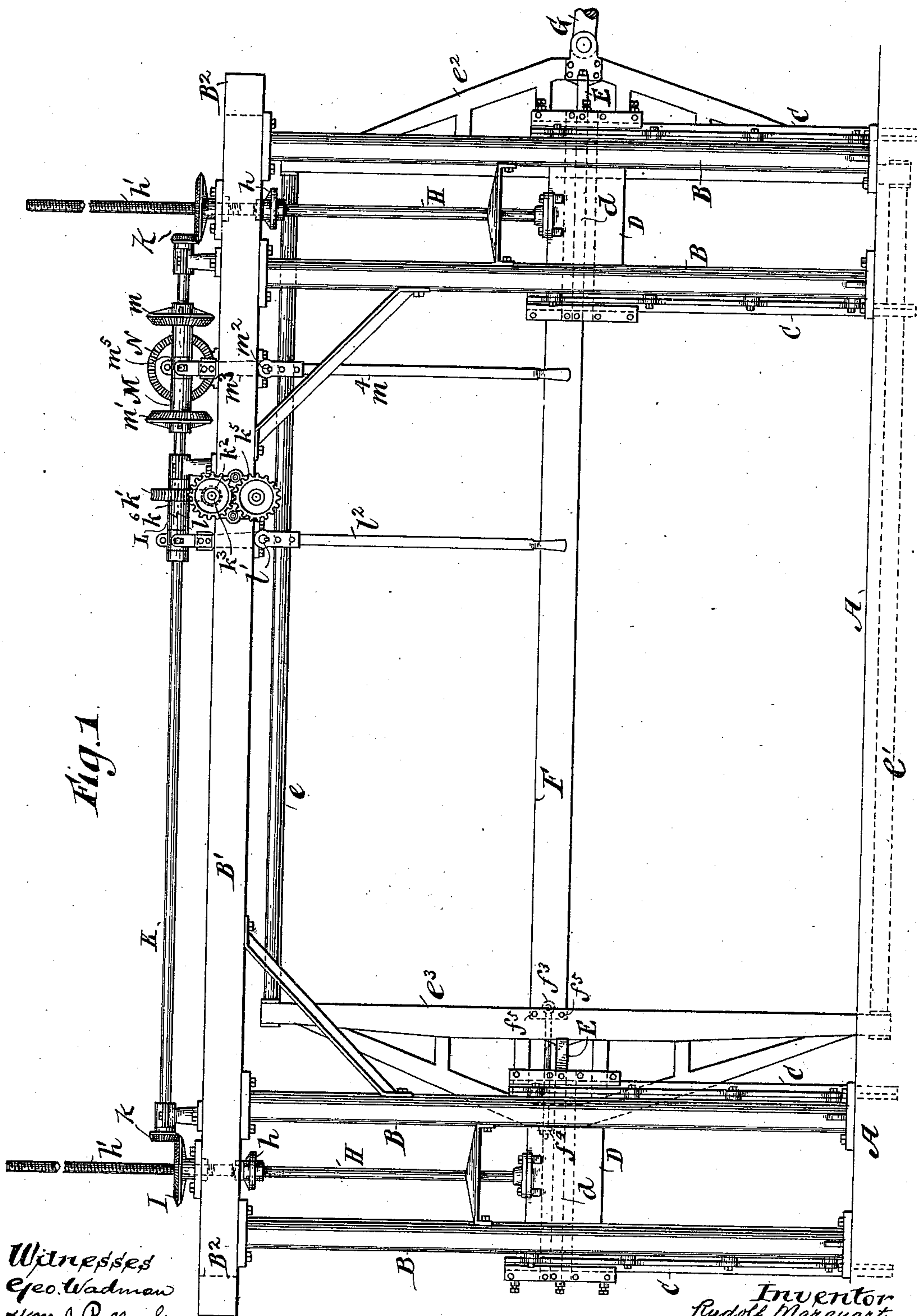


Fig. 1.

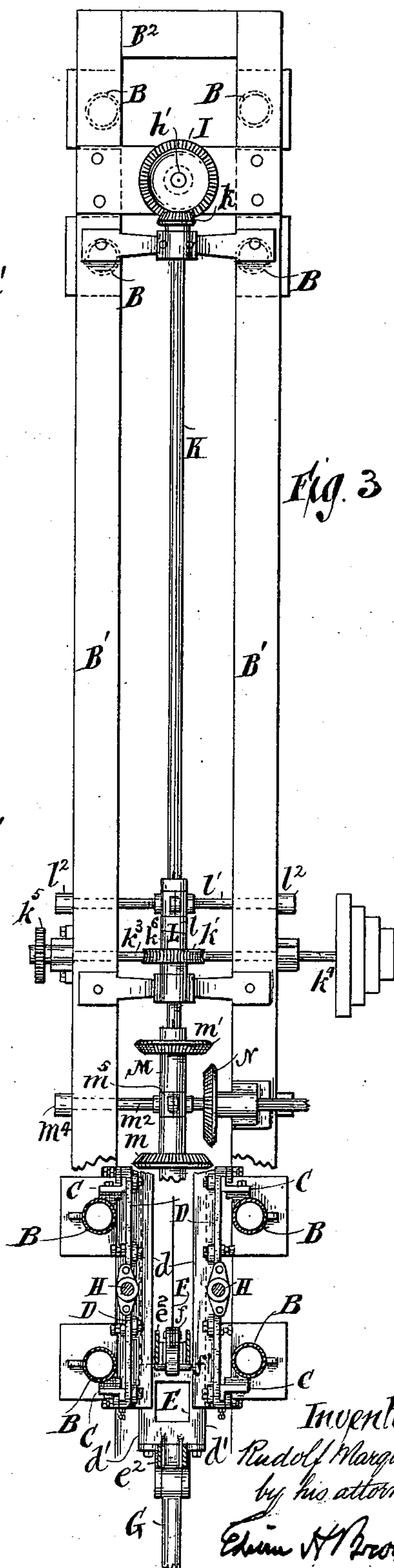
Witnesses
Geo. Wadman
J. M. A. Pollock

Inventor
Rudolf Marquart
by his attorney
Edwin H. Brown

2 Sheets—Sheet 2.

Patented July 7, 1896.

No. 563,499.



Witnesses
Geo. Wadman
Jm A. Pollock

Inventor:
Rudolf Marquart
by his attorney
Edwin A Brown

UNITED STATES PATENT OFFICE.

RUDOLF MARQUART, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, AND
ROBERT C. FISHER, OF NEW ROCHELLE, AND EDWARD B. TOMPKINS,
OF BROOKLYN, NEW YORK.

STONE-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 563,499, dated July 7, 1896.

Application filed September 24, 1895. Serial No. 563,561. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF MARQUART, of the city, county, and State of New York, have invented a certain new and useful Improvement in Stone-Sawing Machines, of which the following is a specification.

I will describe a stone-sawing machine embodying the features of my improvement, and then point out its novelty in the claims.

10 In the accompanying drawings, Figure 1 is a side elevation of a stone-sawing machine embodying my improvement. Fig. 2 is an end elevation thereof. Fig. 3 is a top view of the same, certain portions being omitted. 15 Fig. 4 is a plan view, enlarged, showing devices for securing the saw-blade in position.

Similar letters of reference designate corresponding parts in all figures.

20 A designates the foundation, upon which is erected the framework supporting the saw and the various parts of the saw mechanisms.

The framework may comprise uprights B, there being in the present instance two of these uprights on each side of the machine 25 at each end of the latter. Longitudinal beams B', secured to these uprights, and cross-pieces B² form a convenient framework for the machine.

30 C is a vertical guide secured to the inner face of each upright B. A sliding plate or block D is provided at its extremities with means, preferably including gibs, for fitting the guides C on each pair of said uprights B, that it may have a vertical movement 35 thereon.

40 The interior or adjacent face of each plate D is formed with a longitudinal guideway *d*, with which coöperates a projecting tongue *d'*, extending from the adjacent face of the saw frame or sash E.

The saw-frame is of rectangular construction, having upper and lower compression-bars *e* and *e'* and end pieces *e*² *e*³, to which the compression-bars are firmly secured.

45 In mounting the saw-frame, I prefer that the lower compression-bar *e'* should be situated below the upper surface of the foundation A, the latter having an opening for that purpose. The saw-blade F will be stretched 50 between the end pieces *e*² *e*³ by any suitable

means. For instance, one end piece *e*² may have one or more slotted bars *f* secured to the end piece by a cross pin or pins *f'*, while through the slotted portion of the bar *f* passes a cross-pin *f*², protruding through an opening in the saw-blade. At the opposite extremity the saw-blade is similarly engaged 55 with a slotted bar *f*³, the opposite extremity of this bar being threaded and supplied with a nut abutting against a plate *f*⁴, whereby 60 a tension can be put upon the blade. Set-screws *f*⁵ may also be supplied for centering and steadying the upper edge of the saw-blade.

G is the usual pitman for reciprocating the 65 saw-frame.

Returning now to the mechanism utilized for supporting the saw-frame and for effecting its movements transverse to the line of its reciprocations, H is a rod secured at its 70 lower end to the plate D. At their upper extremities the rods H at each end of the machine are affixed to and connected one with the other by a yoke *h*, from which also projects upwardly a screw-rod *h'*, rigidly secured 75 to the yoke.

I is a bevel-wheel with a threaded bore engaging with the screw-rod *h'*, the rotation of which bevel-wheel, by means to be described, 80 elevates or depresses its corresponding screw-rod *h'*, and consequently the saw-frame.

K is the feed-rod, journaled in suitable bearings at the upper portion of the machine and supporting bevel-wheels *k*, engaging with the corresponding threaded bevel-wheels I. 85 The means for rotating this feed-rod comprise a worm-wheel *k'* concentric with the rod, a coacting worm *k*², secured to the worm-shaft *k*³, and a cone-pulley *k*⁴, driven from any suitable source, for driving the worm-shaft. I 90 may employ gearing *k*⁵ for transmitting motion from the shaft driven by cone-pulley *k*⁴ to the worm-shaft.

Instead of securing the worm-wheel *k'* rigidly to the feed-rod K, I will preferably secure the same to a sleeve *k*⁶, having a sliding fit upon the feed-rod, and engaged therewith by a clutch L. One extremity of the sleeve *k*⁶ is notched to form one clutch member, while the opposite member is formed by the 100

notched edge of a second sleeve l , sliding lengthwise of the feed-rod, but compelled to rotate therewith by an engaging key and keyway. (Notshown.) A clutch-lever shaft l' extends across the upper part of the machine and is provided with a clutch-lever l'' at each side of the machine. By thus mounting the worm-wheel upon the feed-rod, I am enabled when the clutch L is in the disengaging or off position to impart to the feed-rod a more rapid movement for adjusting the saw-blade rapidly to place. The means I have shown for accomplishing this rapid movement of the feed-rod consists of a sleeve M , fitted to move easily lengthwise of the feed-rod, but compelled to rotate therewith by an engaging key and keyway. At opposite ends of the sleeve M are secured bevel-wheels m m' . An oscillating shaft m^2 extends transversely to the sleeve M , the former having a rigid arm m^3 whose upper extremity embraces pins extending from a collar m^5 loosely fitting a groove around the sleeve M . It is evident that when this shaft is oscillated, the sleeve M and consequently the bevel-wheels m and m' will move first in one direction and then in the opposite. A lever m^4 is secured to the shaft m^2 at each side of the machine for oscillating the shaft.

N is a fixed bevel-wheel journaled in supports at the side of the machine and positively driven by any suitably-applied power. It is so mounted that it may engage with either bevel-wheel m and m' , and consequently drive the feed-rod in one or the other direction.

The operation of the device may be described as follows: The stone having been placed beneath the saw-blade, the saw-frame is set into reciprocation through the connecting-pitman, the blade having been adjusted to position by the rotation of either the bevel-wheels m or m' , as already described. The clutch L is now thrown into engagement, the

bevel-wheel m or m' having been previously disengaged and the feeding of the saw-blade commences and continues as long as the machine operates and the clutch L is in engagement.

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

1. The combination of a reciprocating saw-frame, plates or blocks formed with guides defining the movement of the frame, screw-rods for adjusting the plates or blocks to cause the feeding of the frame, a feed-rod extending lengthwise of the machine and provided with bevel-wheels meshing with similar wheels applied to said screw-rods, a worm and worm-wheel for imparting a feeding movement to said feed-rod, a clutch for engaging the worm-wheel with and disengaging it from said rod, a power-driven gear, and gears adjustable into and out of action with the power-driven gear for producing a rapid movement of the saw-frame in either direction, substantially as specified.

2. The combination with a reciprocating saw-frame, of the screw-rods h h' , the bevel-wheels I , I , engaging therewith, the feed-rod K having bevel-wheels k , k , engaging with the bevel-wheels I , I , the worm k^2 and worm-wheel k' for driving the rod, the clutch L for engaging said worm-wheel with and disengaging it from the rod K , the sleeve M moving lengthwise of the rod K and supporting bevel-wheels m , m' , and the power-driven bevel-wheel N for driving either one of the bevel-wheels m , m' , substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RUDOLF MARQUART.

Witnesses:

ANTHONY GREF,
WM. A. POLLOCK.