

C. LOHR.
STONE DRESSING MACHINE.

No. 511,628.

Patented Dec. 26, 1893.

Fig. 2.

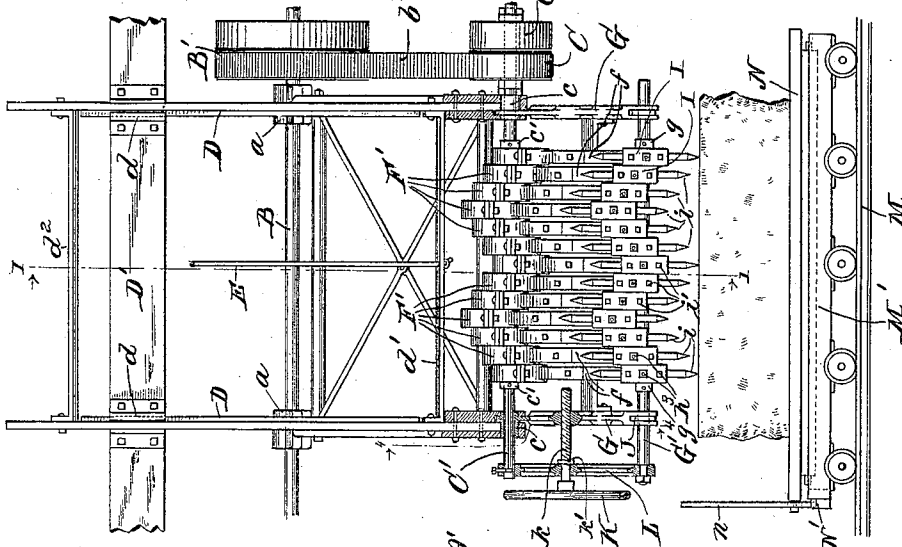
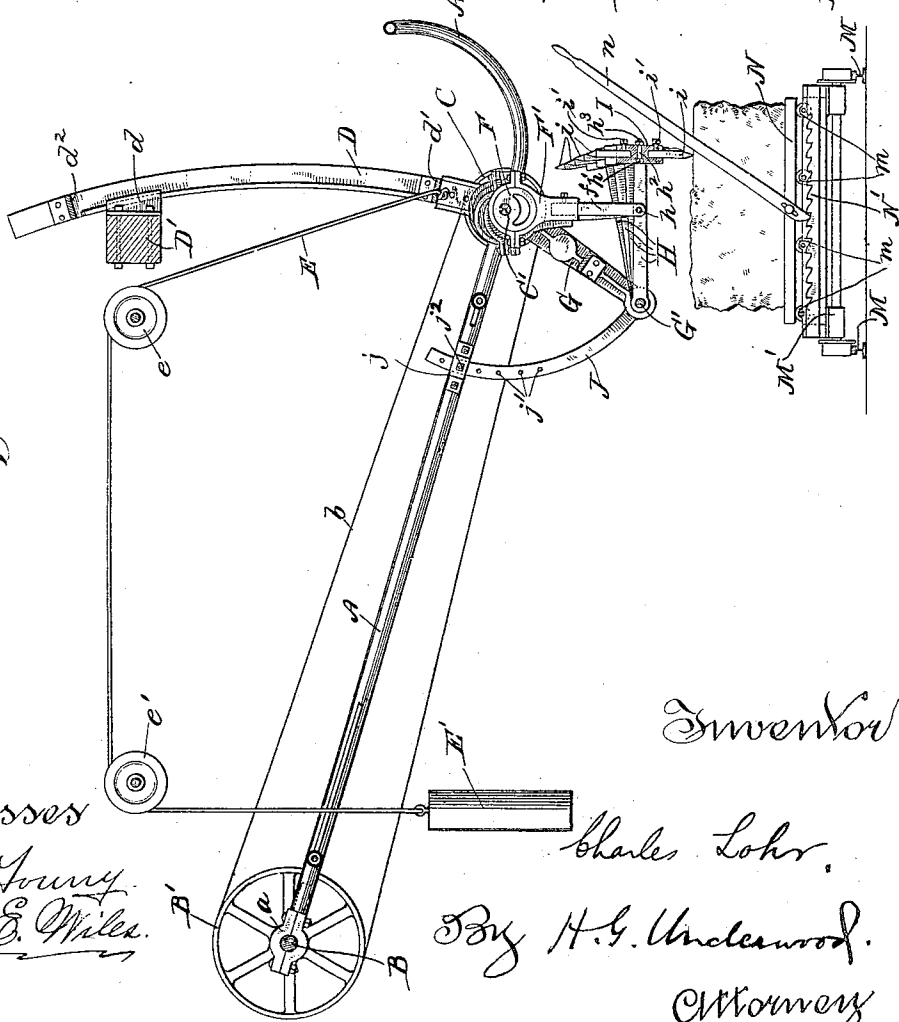


Fig. 1.



Witnesses
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Inventor

Charles Lohr.

By H. G. Underwood.
Attorney

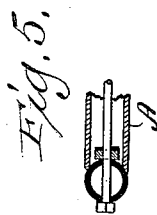
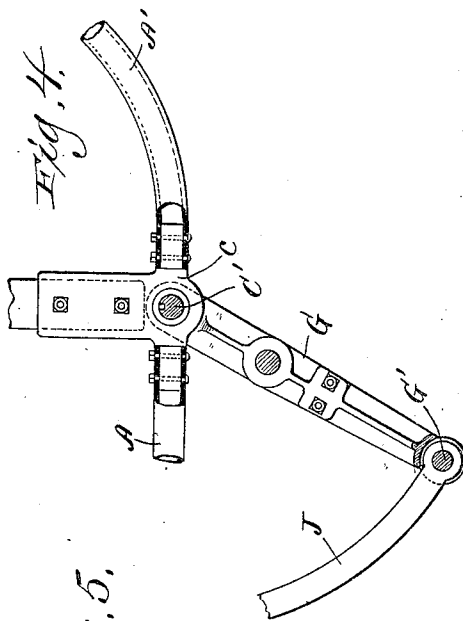
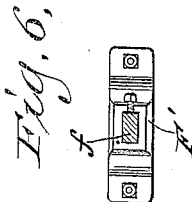
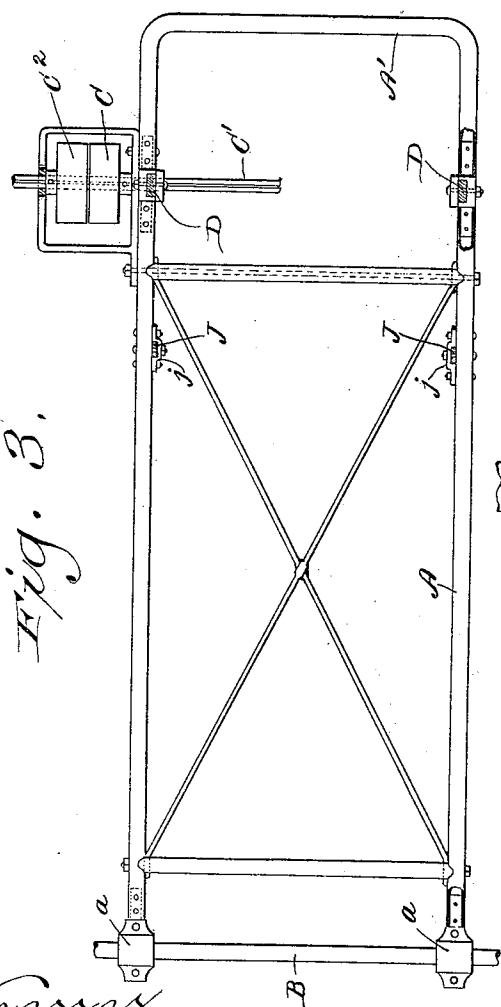
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

CHARLES LOHR, OF MILWAUKEE, WISCONSIN.

STONE-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,628, dated December 26, 1893.

Application filed May 2, 1893. Serial No. 472,696. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LOHR, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Stone-Dressing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in the construction of stone dressing machines and consists in the matters hereinafter described and pointed out in the appended claims.

In the accompanying drawings illustrating my invention Figure 1 is a vertical sectional view of my improved machine taken on line 1—1 of Fig. 2. Fig. 2 is a front elevation of the same showing parts broken away. Fig. 3 is a plan view of the adjustable frame of my improved machine. Fig. 4 is an enlarged detail view taken on line 4—4 of Fig. 2. Fig. 5 is a detail sectional view showing the construction of the joints between the frame pieces. Fig. 6 is an inverted plan view of one of the eccentrics for actuating the tools.

Referring by letter to the drawings, A designates a suitable frame which is pivotally engaged at one end with a transverse drive shaft B, said frame being preferably made of a generally rectangular form, as shown more particularly in Fig. 3, and is provided with suitable bearings *a a* for the drive shaft B. The shaft B is actuated in any desired manner, and carries a drive pulley B' over which a belt *b* is trained and operatively engaged with a second pulley C, splined onto a revolvable shaft C', which latter shaft is journaled in suitable bearings *c c*, adjacent to the outer or free end of the frame A.

Upon the free end of the frame A are arranged upwardly extending, arc-shaped guide arms D D, constructed upon arcs concentric with the shaft B and having sliding engagement with suitable guides *d d* upon a transverse beam D', transverse brace arms *d'* and *d''* being arranged to extend between said arc-shaped guide arms as shown. A rope or cord E is secured at one end to the free end of the frame, being conveniently fastened to the transverse brace *d'* and is trained over suitable pulleys or sheaves *e* and *e'* and carries

at its opposite end a counterpoise weight E' of a weight sufficient to just about balance the weight of the frame and the parts carried thereby. By this construction the frame A is rendered adjustable about the drive-shaft B, the arc-shaped arms D D sliding in the guides *d d* serving to steady the frame, and the counterpoise weight E' operating to sustain the free end of the frame in its adjusted position.

Upon the shaft C' are splined any desired number of eccentrics F F, with which straps F' F' are engaged, and to the lower sides of said straps are secured suitable pitmen *f f* adapted for operative engagement with the vibrating arms which carry the tools or points which operate upon the surface of the stone, as will be presently described.

At opposite sides of the frame A are arranged two depending arms G G which are adjustably engaged with the transverse shaft C' and between the lower ends of which is arranged a second transverse shaft G' and a series of arms H H, equal in number to the eccentrics upon shaft C', are pivotally secured at one end, to said shaft G' and each operatively engaged as at *h* with one of the pitmen *f*, so that a rotation of the shaft C' and the eccentrics carried thereby will produce a vertical reciprocation of the outer or free ends of said arms H H.

As illustrated more particularly in Figs. 1 and 2, of the drawings, I prefer to arrange the several eccentrics upon the shaft C', in such a manner as to cause the several vibrating arms H H actuated thereby to successively rise and fall, although, if preferred, all of the eccentrics may be set upon the shaft C' in the same relative position, so as to produce a simultaneous rise and fall of all of the arms H H.

Upon the free end of each of the arms H is removably secured a head I provided in its upper and lower ends with suitable sockets for the reception of suitable tools or points *i i*.

As shown more particularly in Fig. 1 of the drawings, the arms H H terminate in spindles *h' h'* upon which the heads I I are fitted and said spindles are conveniently made of angular form throughout a part of their length as at *h² h²* so as to prevent said heads from being accidentally turned thereon. Suitable

nuts $h^s h^s$ are engaged with the extremities of the said spindles and serve to secure the heads in engagement therewith, and the tools or points $i i$ are likewise removably secured in position in said heads by suitable set screws $i' i'$.

To the lower ends of the hanger arms $G G$, are pivotally secured suitable arc-shaped braces $J J$ which have sliding engagement with guides $j j$ upon the side pieces of the frame A , said braces being each provided with a series of apertures $j' j'$ for the reception of bolts or pins $j^2 j^2$ which are passed through said guides and said braces to secure the latter in their adjusted positions with respect to the frame. It follows from this construction, that the hangers $G G$ may be adjusted so as to cause the heads $I I$ to move in vertical lines or oblique lines as may be desired.

At the front end of the frame A , I provide a suitable bail or hand rail A' , which extends across the front of the machine and by means of which the operator may apply any desired amount of pressure to the free end of the frame and thus cause the points $i i$ to strike upon the top of a stone placed beneath them, with any desired force.

As a further and separate improvement, I provide at one side of the free end of the frame A , a suitable hand wheel K , having a screw-threaded axis k which has a threaded engagement with one of the hangers G , and I arrange the ends of the shafts C' and G' to extend through the said hanger at this side of the machine in the manner shown in Fig. 2 of the drawings. The axis k of the hand wheel K is arranged to rotate freely in a bearing in a bar L which connects the projecting ends of the shafts C' and G' , and is provided with a collar k' to take the thrust of said bar upon the side thereof opposite to the hand wheel. By this construction, by a rotation of the hand wheel, the bar L may be adjusted toward or away from the hanger G , and thus operating to adjust the shafts C' and G' longitudinally within the frame. I further provide upon said shafts at opposite ends of the series of eccentrics and pivoted arms, respectively, suitable collars $c' c'$ and $g g$ which serve to retain said eccentrics and arms in the same relative positions upon the shafts C' and G' as the latter are adjusted longitudinally within their bearings.

Beneath the free end of the frame, I arrange a track M , upon which a carriage M' is arranged to run, and upon this carriage are arranged a suitable number of transverse rollers $m m$ upon which a platform N is adjustably supported. At one side of this platform is pivoted a hand lever n which is adapted for engagement at its lower end with a suitable rack bar N' in the manner shown in Fig. 1. By this means a stone supported upon the platform may be adjusted either laterally by means of the track M and truck or carriage M' , or at right angles to said track by an operation of said lever n in an obvious

manner, while by the described arrangement of the hand wheel K and the screw shaft k to adjust the vibrating arms and the eccentrics lengthwise of their shafts the tools carried by said arms may be moved gradually from side to side so as to bring the points or tools $i i$ successively into contact with all parts of the surface of the stone upon the platform.

As shown more particularly in Figs. 2 and 3 of the drawings, the shaft C' is conveniently provided in addition to the pulley C , with a loose pulley C^2 , so that the drive belt may be shifted from the tight to the loose pulley in the usual manner to throw the machine out of operation, without stopping the drive shaft B .

If desired any one or more of the heads $I I$ may be removed entirely from the ends of the arms, or may be detached in the manner described and replaced again in an inverted position, so as to bring fresh tools or points into operation.

By my improved construction, the surfaces of the stone may be very rapidly and uniformly dressed, and any desired smoothness given to the said surfaces.

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

1. In a stone dressing machine the combination of a suitable frame pivotally engaged at one end with a transverse drive shaft and carrying at its free end a revoluble shaft, pulleys upon the two shafts belted together, arc-shaped guide arms concentric with the drive shaft and rising from the frame at its free end in line with the said revoluble shaft, a transverse beam located above the frame and carrying stationary guides in engagement with said arms, transverse braces connecting the said guide arms, a cord or cable secured to the lower brace, and passing up and back to a point adjacent to the other end of the frame and there provided with a counterpoise weight, a plurality of eccentrics upon the said revoluble shaft, a series of reciprocating cutters, operatively and adjustably connected to said eccentrics and with said frame, and a pressure regulating bail projecting from the free end of said frame, substantially as set forth.

2. In a stone dressing machine, the combination of a suitable counterweighted frame pivotally engaged at one end with a transverse drive shaft and carrying at its free end a revoluble shaft, pulleys upon the two shafts belted together, arc-shaped guide arms rising from said free end of the frame and engaging with stationary guides, a plurality of eccentrics upon said revoluble shaft, straps engaging said eccentrics, pitmen secured to said straps, depending arms adjustably engaged with the said revoluble shaft and connected at their lower ends by another transverse shaft, a plurality of arms in engagement with the last named shaft and with said pitmen and carrying at their free ends adjustable tool heads, and arc-shaped braces

pivoted to the said transverse shaft and having adjustable sliding engagement with the said frame, substantially as set forth.

3. In a stone dressing machine, the combination with a suitable frame having a revoluble shaft at one end, a plurality of eccentrics upon said shaft, straps engaging said eccentrics, pitmen secured to said straps, depending arms engaged with said revoluble shaft, a transverse shaft passing through the lower ends of said arms, a plurality of arms on said shaft connected with said pitmen and carrying at their free ends tool-heads provided with cutting tools, collars on the revoluble shaft confining the eccentrics between them, and collars on the transverse shaft confining the tool-carrying arms thereon between them, a bar connecting the outer projecting ends of the said revoluble shaft and said transverse shaft, and a hand-wheel having a collared shank rotating freely in a bearing in said bar, and terminating in a screw-threaded end in threaded engagement with the adjacent one

of the aforesaid depending arms, substantially as set forth.

4. In a stone dressing machine, the combination of a suitable stationary track, a carriage having wheels running upon said track, a series of rollers mounted on said carriage in parallel lines transverse to the line of travel of the said carriage wheels and a horizontal rack bar upon the carriage, a stone supporting platform supported upon the said transverse rollers, and a hand lever pivoted to a side edge of said platform, and having a short pointed end in adjustable engagement with said rack-bar, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CHARLES LOHR.

Witnesses:

H. G. UNDERWOOD,
C. W. ACOTT.