(No Model.)

# W. H. H. CAMPBELL.

## STONE SAWING MACHINE.

No. 337,661. Patented Mar. 9, 1886.

Fig. 1.

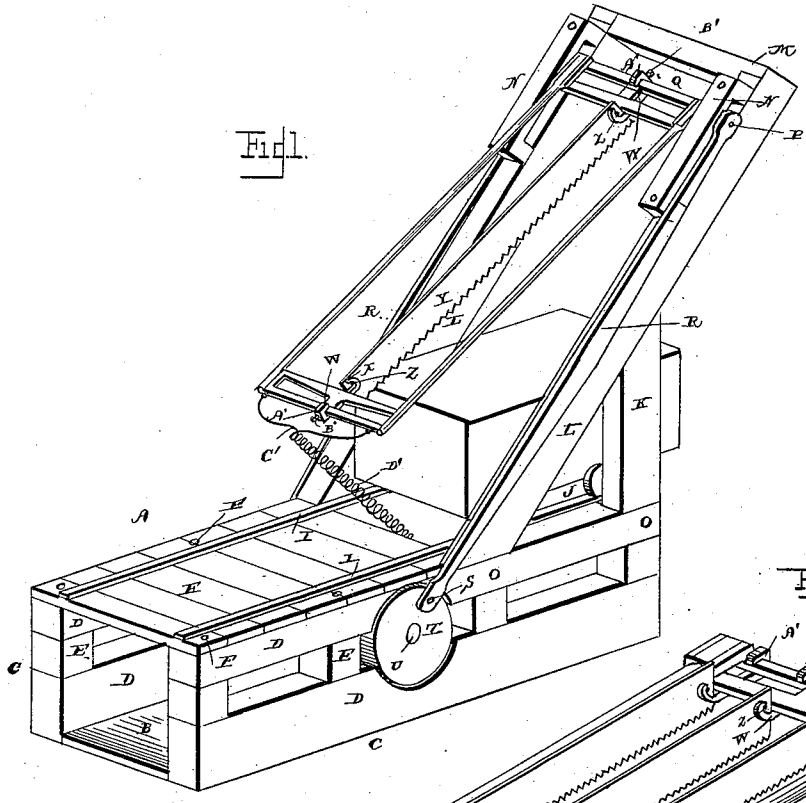


Fig. 4.

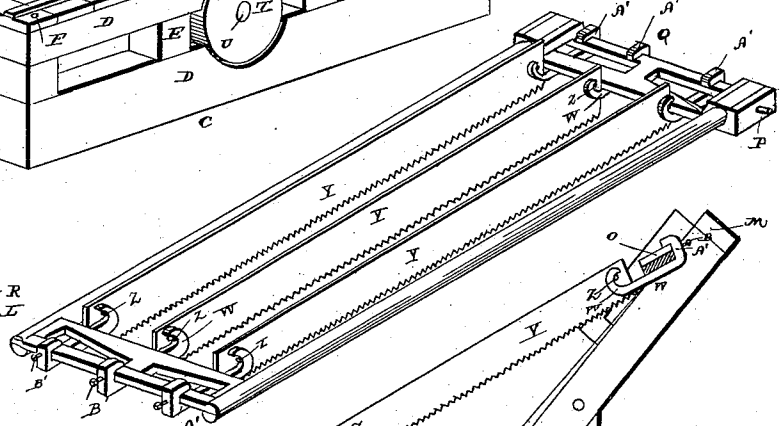


Fig. 3.

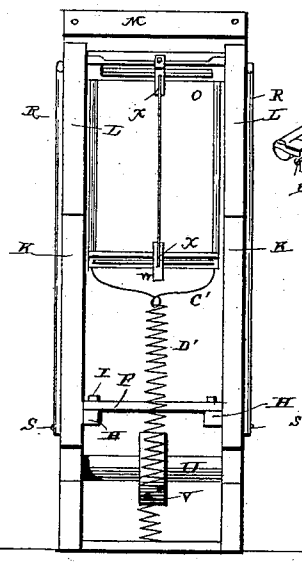


Fig. 2.



WITNESSES

F. L. Ourand

Edward Stanton

INVENTOR

William H. H. Campbell

By Louis Bagger & Co

Attorneys

N. PETERS, Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

WILLIAM HARVEY HARRISON CAMPBELL, OF WICHITA, KANSAS.

## STONE-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 337,661, dated March 9, 1886.

Application filed January 4, 1886. Serial No. 187,538. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HARVEY HARRISON CAMPBELL, of Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Stone-Sawing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved stone-sawing machine, showing the same in position ready for operation. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is an end view, and Fig. 4 is a perspective view, on a larger scale, of the saw frame or sash equipped with a gang or series of saws.

The same letters refer to the same parts in all the figures.

This invention relates to machines for sawing stone; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency, which shall be simple and effective in operation, which shall be equipped with a gang or series of saws, so that by a single operation a number of slabs may be sawed, and which may be easily and conveniently operated and manipulated.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A designates the base of the machine, which comprises a bottom piece, B, and sides C C, which latter may be constructed of beams D D, spaced by means of blocks E and connected by vertical bolts F, whereby a base-frame is formed which combines lightness with great strength and durability. The rear end of this base-frame is provided with a flooring, F, and stringers H H are secured to the inner sides of the sides of the frame, extending from the end of the flooring to the front end of the frame.

Upon the stringers and the flooring are laid the rails I I, on which a truck, J, of suitable construction, is arranged to travel. In practice this truck carries the stone which is to be operated upon, and it is obvious that it must be so constructed as not to interfere with the operation of the saws.

The unfloored portion of the base frame is for the purpose of admitting of the free play of the saw-frame, as will be readily understood.

The base-frame is provided near its front end with a pair of vertical uprights, K K, serving as braces or supports for a pair of inclined frame-beams, L L, the upper ends of which are connected by a cap or cross piece, M. The said inclined frame-beams are provided near their upper ends with slideways or guides N N, affording bearings for a pair of sliding reciprocating boxes, O O, in which are journaled the spindles P P, extending laterally from the head of the saw sash or frame Q. The projecting ends of the spindles P P are connected pivotally with the pitmen R R, the lower ends of which are journaled upon the wrist-pins S of the fly-wheels or disks T T, which are mounted upon the ends of a transverse shaft, U, which is mounted in suitable bearings in the sides of the base-frame. The said shaft U is provided with a centrally-located pulley or band-wheel, V, over which may run a belt or band, for the purpose of conveying motion to the machine from any suitable motive power.

The saw-sash Q consists of a rectangular frame of suitable construction, the upper and lower ends or heads of which are preferably made of cast metal, and so constructed with transverse braces or in any other suitable manner as to be well strengthened and re-enforced.

W W designate the saw-clamps, which are provided at their inner ends with slots X, to receive the ends of the saws Y, which may be retained in the said slots by means of transverse pins Z. The outer ends of the saw-clamps are constructed with hooks A', adapted

to take over the ends or heads of the saw-sash, and provided with set-screws B′, adapted to bear against the same, thereby serving to stretch or tighten the same and to secure them in position in the sash. It will be seen that the latter, being journaled at its upper end in the sliding boxes, will readily adjust itself to the position of the block of stone which is mounted upon the truck, the arrangement of which has been already described. It will also be seen that any desired number of saws may be mounted in the frame at one time, thus sawing at a single operation any desired number of slabs of such thickness as may be desired.

In order to hold the saws to their work with the requisite degree of tension, a yoke or bail, C′, is attached in any suitable manner to the lower end of the saw-sash and connected by means of a coiled spring, D′, with the bottom of the base-frame at a point near the front end of the latter. This spring, it will be seen, will adapt itself to the position and the movement of the saw-carrying sash, and will serve to hold the saws in contact with the block of stone which is being operated upon.

For the purpose of feeding the stone to the saws, mechanism of any suitable construction for the purpose of operating the stone-carrying truck, either automatically or manually, may be employed; but no such mechanism is shown in the drawings hereto annexed, and it forms no part of my present invention.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains without requiring any extended explanation. The motion received by the transverse main operating-shaft is conveyed from the latter to the saw-sash, which is thereby reciprocated. The saws will be pressed yieldingly against the stone which is being operated upon by means of the spring herein described, the degree of the tension being regulated partly by the tension of the spring and partly by the degree of force with which the stone-carrying truck is being fed.

The general construction of the machine is simple and inexpensive, and it may be easily operated and manipulated with good results, even by comparatively unskilled hands.

Owing to the simplicity of its construction, the machine possesses great strength and durability, and it is not liable to get out of order.

In the practical manufacture or building of this machine it may be found desirable to embody various minor changes in the construction and arrangement of details, such as will readily suggest themselves to those skilled in the construction of this class of machines. I would therefore have it understood that I do not limit myself to the precise construction and arrangement of parts herein shown and described, but reserve to myself the right to any and all alterations and modifications which may be resorted to without departing from the spirit of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a stone-sawing machine, the combination of a base-frame comprising a bottom piece and sides, flooring connecting the upper edges of the said sides at the front end of the machine, stringers secured to the inner sides of the side pieces at their upper edges and extending over the unfloored portion of the frame, rails laid upon the said floor and stringers and adapted to support a suitable truck, an inclined frame erected near one end of the base-frame and connected with the latter by means of suitable braces, suitable slideways near the upper end of the said inclined frame, boxes arranged to slide in the said ways, the saw-carrying frame or sash provided at its upper head or end with laterally-extending pintles journaled in the said boxes, and suitable operating mechanism for imparting a reciprocating motion to the said frame or sash, substantially as and for the purpose herein set forth.

2. In a stone-sawing machine, the combination of the base-frame, an inclined frame arranged near one end of the same, slideways near the upper end of said inclined frame, the boxes arranged to slide in said ways, the saw-carrying frame or sash provided at its upper end with laterally-extending pintles, whereby it is journaled in the said boxes, a shaft journaled transversely in the base-frame, fly-wheels at the ends of the said shaft, and pitmen connecting wrist-pins on the said wheels with the projecting ends of the pintles at the upper ends of the saw-sash, substantially as and for the purpose herein shown and specified.

3. In a stone-sawing machine, the combination of the base-frame, an inclined frame near one end of the same, slideways near the upper end of the said inclined frame, boxes arranged to slide in the said ways, the saw-carrying frame or sash having laterally-extending pintles at its upper end, whereby it is journaled in the said boxes, and a coiled spring connecting the lower end of the said sash with the bottom of the base-frame near the front end of the latter, together with suitable operating mechanism, all arranged and operating substantially as and for the purpose herein shown and specified.

4. In a stone-sawing machine, the combination of the base-frame having a longitudinal track for a stone-carrying truck, an inclined end frame having suitable slideways, boxes arranged to slide in the latter, the saw-carrying frame or sash having laterally-extending pintles, the saw-clamps having slotted inner ends and constructed at their outer ends

with hooks, in which set-screws are arranged to work, a spring connecting the lower end of the saw frame or sash with the bottom of the base-frame near the front end of the latter, and suitable mechanism for imparting a reciprocating motion to the saw-sash, all arranged and operating substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM HARVEY HARRISON CAMPBELL.

Witnesses:
W. E. STANLEY,
COLLIN V. CAMPBELL.