

L. Brooks.

Sawing Stone.

N^o 14,688.

Patented Apr. 15, 1856.

Fig. 3.

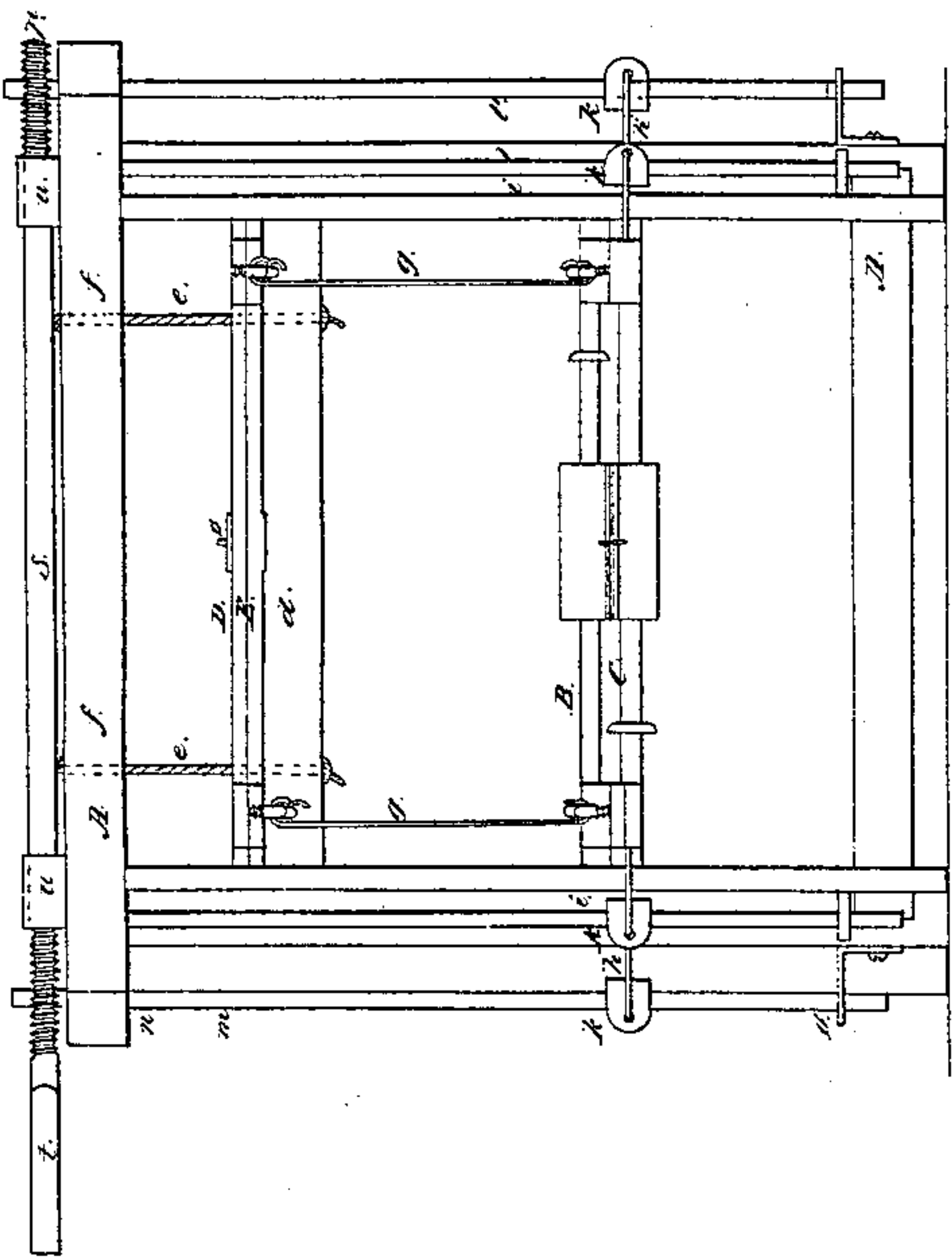


Fig. 4.

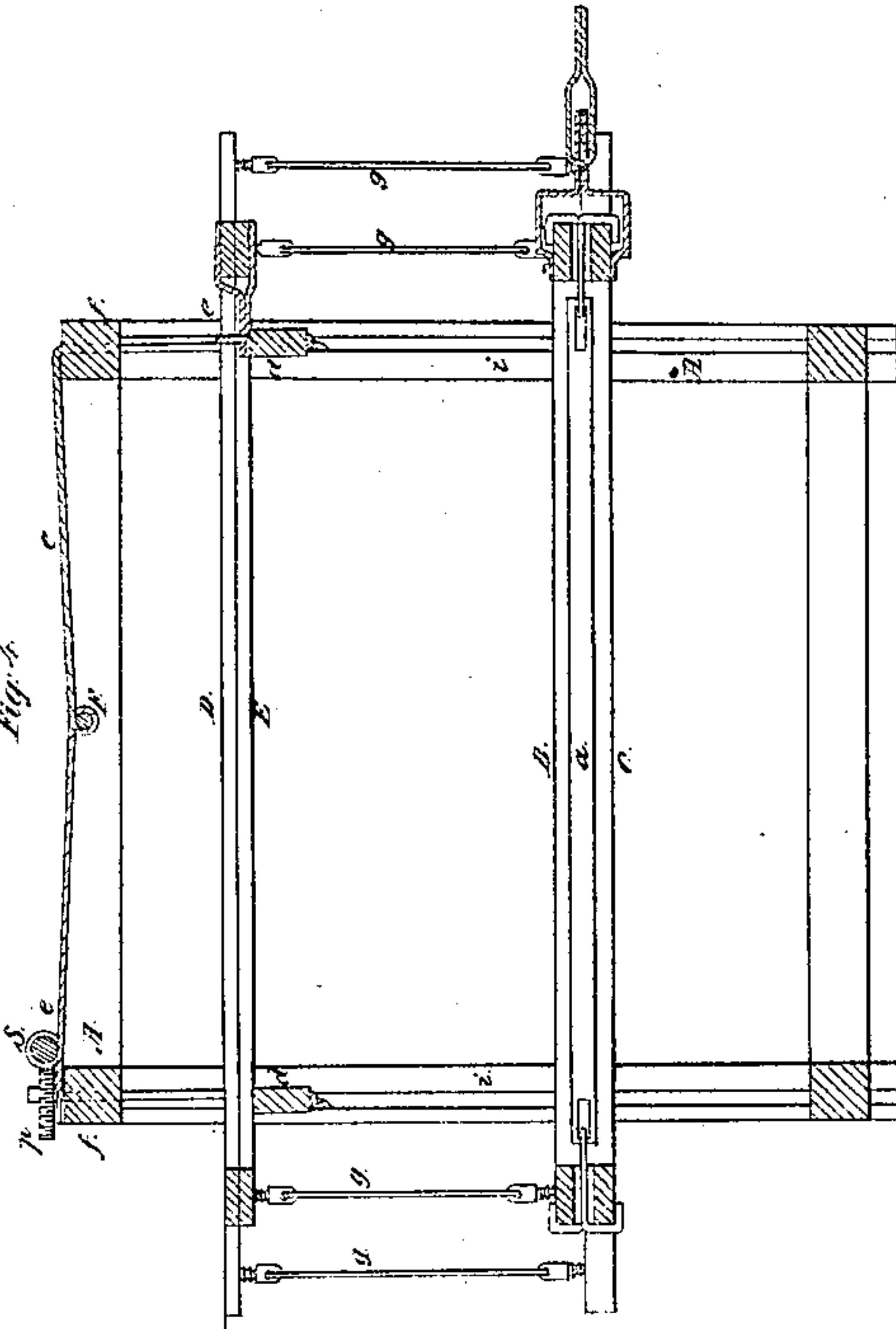


Fig. 1.

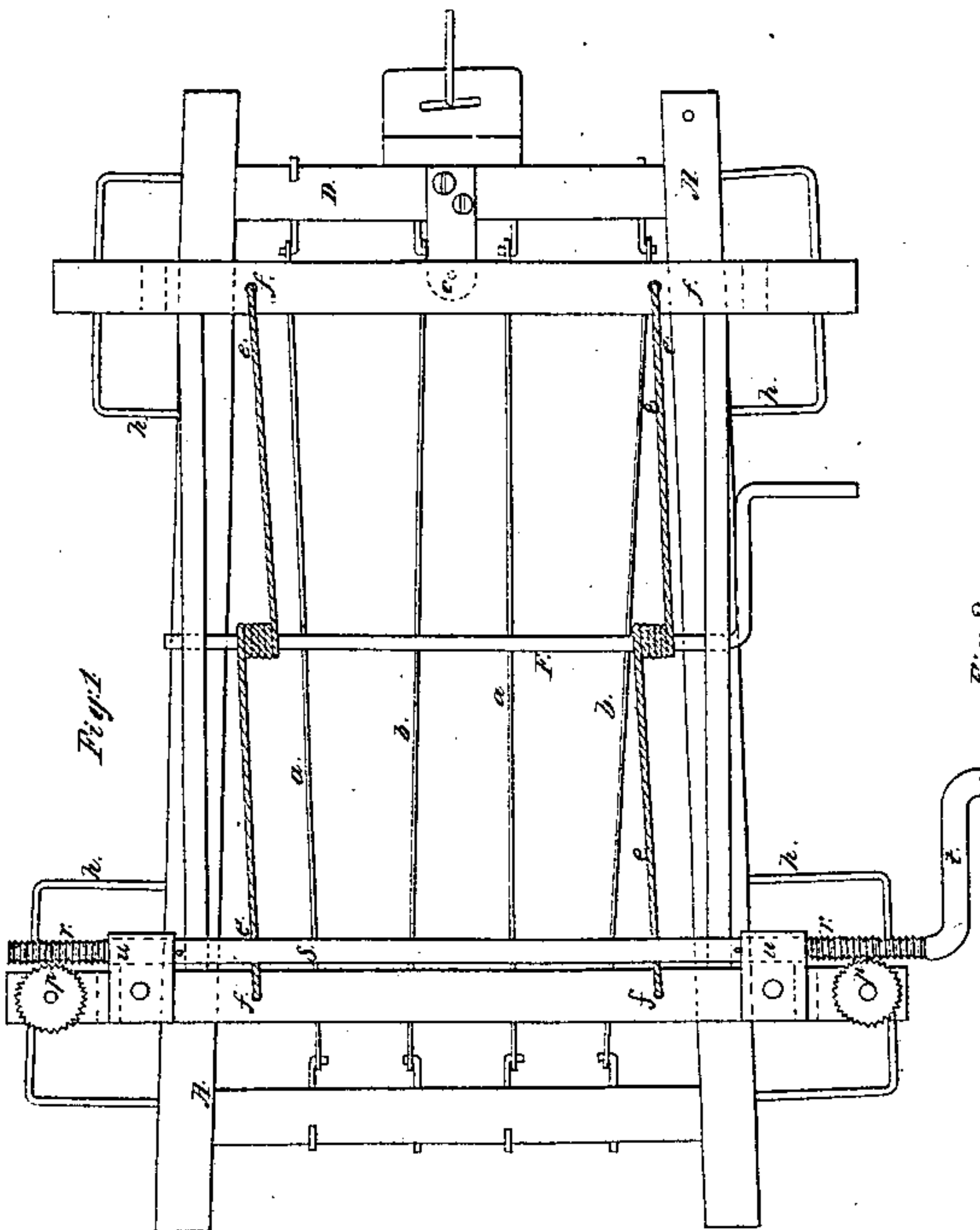
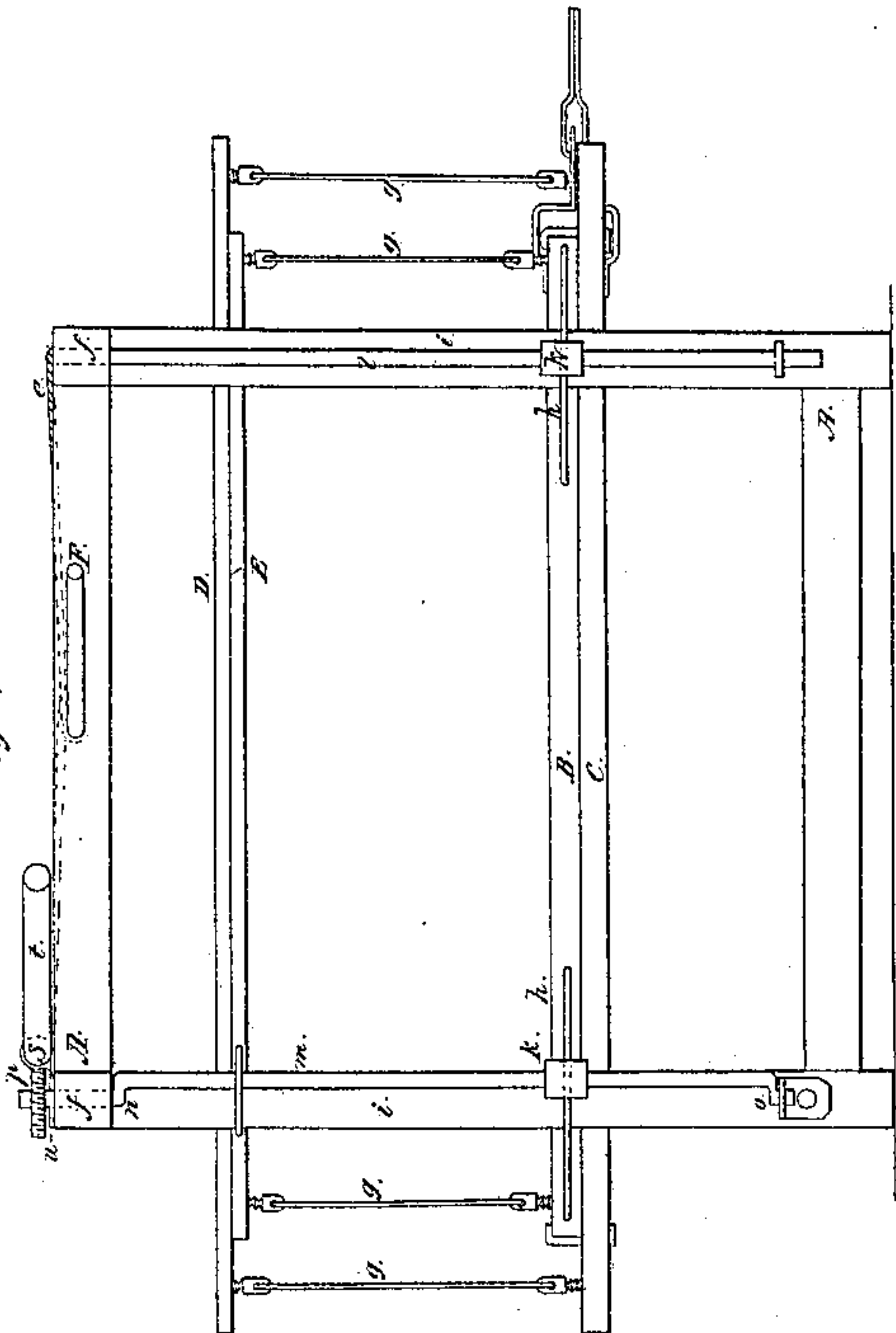


Fig. 2.



UNITED STATES PATENT OFFICE.

LEBBINS BROOKS, OF GREAT FALLS, NEW HAMPSHIRE.

ADJUSTING THE ANGLE IN MACHINES FOR SAWING MARBLE OBELISKS.

Specification of Letters Patent No. 14,688, dated April 15, 1856.

To all whom it may concern:

Be it known that I, LEBBINS BROOKS, of Great Falls, in the county of Strafford and State of New Hampshire, have invented a
5 new and useful Improvement in Machinery for Sawing Stone; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, denotes a top view of my improved sawing machine; Fig. 2, a side elevation. Fig. 3, an end view of it. Fig. 4, a central, vertical and longitudinal section of the same.

15 The object of the machine as improved by me, is, with two gangs of saws to saw stone, either in parallel planes or in those out of parallelism, in order that such stone may be reduced to blocks, or slabs, having
20 their opposite faces parallel or not as circumstances may require. The said machine is adapted to the manufacture of obelisks, pyramidal or tapering blocks.

25 Within a rectangular frame A, there is arranged two horizontal saw frames, B, C, one of which is placed directly over the other, and has its saws *a, a*, disposed on, or about on a level with the saws, *b, b*, of the other. Each of the said frames, by means
30 of connecting rods, *g, g, g, g*, is suspended to one of two horizontal rectangular frames, D, E, which turn on one common upright pin, *c*, arranged as seen in Fig. 4.

35 The lower one of the frames, D, E, rests on the cross girths or rails *d, d*, each of which is held up by two ropes, *e, e*, extending upward from it, through one of the upper cross timbers or girths *f, f*, of the frame, A, and thence toward and around a
40 windlass, F, situated in the middle of the upper part of said frame A. The two ropes on one side of the windlass are wound around it in a direction opposite to that on which the other two ropes or those on the
45 other side of it, are wound about it. Consequently twining the windlass around in one direction, will wind the ropes on it, and lift the frames B, C, D, E, upward, while
50 by a contrary movement of the windlass, they will be lowered down.

Each saw frame, B, C, is provided with two staple guides or bent wires, *h, h*, which extend from it and around two of the posts, *i, i*, of the frame as seen in the drawings, the
55 middle part of each guide or that part of it

between the bends of it, being parallel to the side of the saw frame to which it is affixed. Each of said guides carries a block or slider, *k*, which slides freely on it and has a rod, *l*, or *l'*, extending vertically
60 through it and so that the slider may also slide on said rod. There are two of said rods, to each movable saw frame, one of them being composed of a very long bell crank *m*, and two journals *n, o*. These jour-
65 nals are supported in bearings of the framework A, and so as to enable the rod to be turned horizontally. On the top of two of the crank rods, at one end of the frame, A, are fixed two worm gears, P, P, which en-
70 gage respectively with two endless screws, *r, r*, carried by a horizontal shaft, *s*, which has a crank, *t*, at one end of it. From each of the frames, D, E, an arm, *u*, projects and is bent or extended about the adjacent
75 crank, *m*, as seen in Figs. 1, and 3.

By turning the crank, *t*, the two bell cranks will be simultaneously put in rotation, either toward or away from one another the same depending on the direction
80 in which the crank, *t*, may be put in movement. In consequence of such motion of the bell cranks, the two saw frames and their guides will be moved and so as to
85 either carry the saws of the one, either into or out of parallelism with those of the other as we may desire, the extent of angular divergence of the saws being determined by the extent of movement of the bell cranks.

During the movements of the saw frames
90 B, C, each turns on its vertical rod *l*, or in other words its slider, which is on said rod turns with the frame and so as to adjust itself in parallelism, with the other slider
95 which is on the crank rod.

The two saw frames may be connected to a common connecting rod, by which a reciprocating motion may be given to them
100 so as to cause both gangs of saws to operate at once in a block of stone placed beneath them.

The above described mode of regulating the positions of the gang of saws is not only simple, but very effective in operation, and the whole machine by means not only of the
105 said mechanism for adjusting its saws, but that (viz, the frames D, and E,) for adjusting the hangers or suspension rods, of their frames, B, C, is considered an excellent one in practical operation and use, as it is not
110

liable to get out of repair and is easily worked and can be adjusted with great facility by any common marble worker or sawyer.

5 I do not claim separate saws or gangs of saws running in the same plane at any desired angle and furnished with mechanism and guides to regulate their vertical and longitudinal movements, but

10 What I do claim is—

1. The peculiar combination of mechanism above described, by which each of the saw frames is moved relatively to the other, and so as to dispose its saws either in or out of
15 parallelism with those of the other as circumstances may require, the same consisting of the upright rod, *l*, the bell crank rod, *l'*, their slides *h* *h*, and staple guides, *h*, *h*, the

same being applied to the main frame and a saw frame as specified.

20

2. And I also claim combining with each of the bell crank shafts, *l'*, and the rod *l*, and each of the saw frames and its suspension rod, the movable frame, D, or E, whereby said suspension rods are adjusted
25 or moved at their upper ends simultaneously with the movements of their lower ends and in the same directions.

In testimony whereof I have hereunto set my signature this twenty-ninth day of Feb-
ruary A. D. 1856. 30

LEBBINS BROOKS.

Witnesses:

M. W. WELLS,

G. W. BAINBRIDGE.