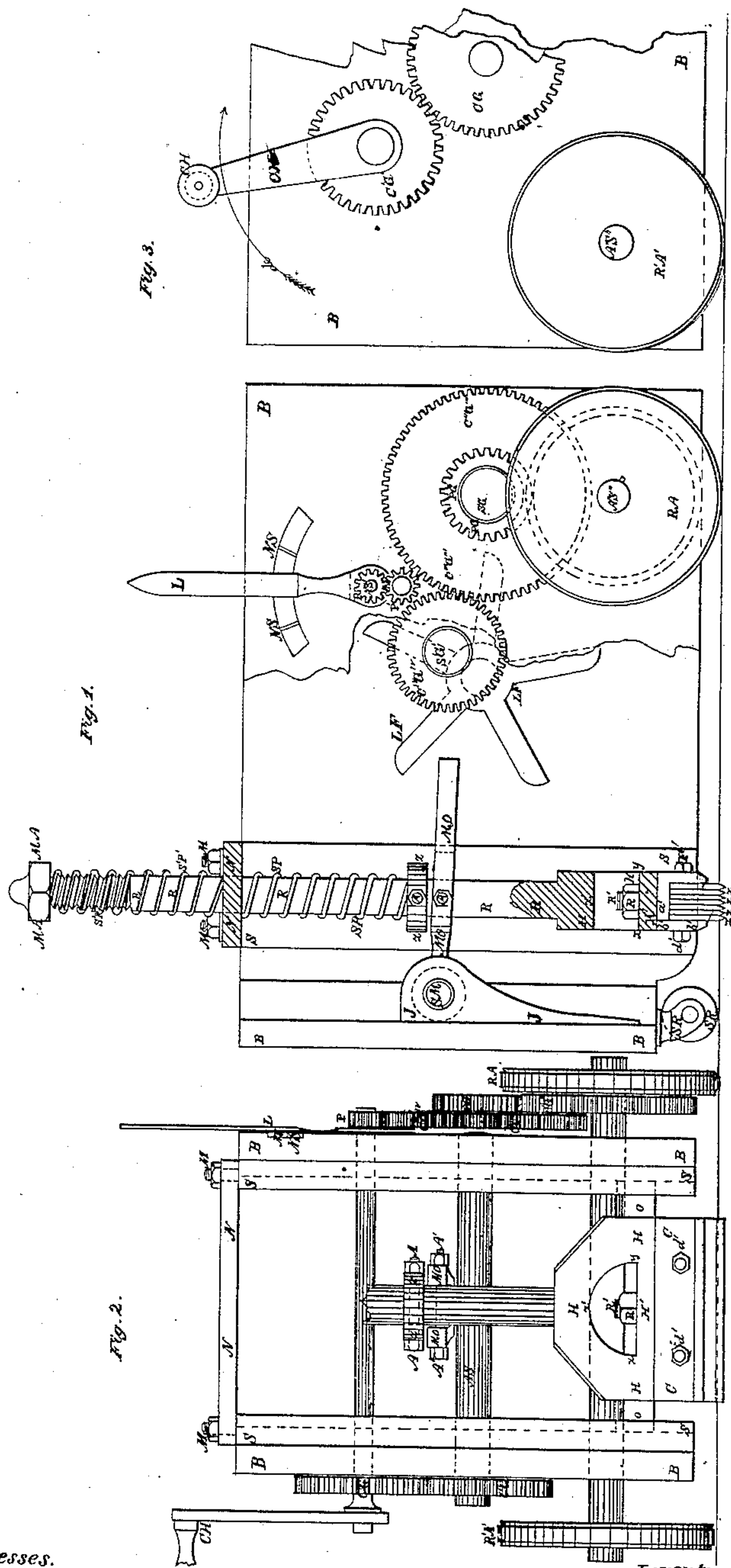


B. S. HUNT.
STONE DRESSER.

No. 61,009.

Patented Jan. 8, 1867



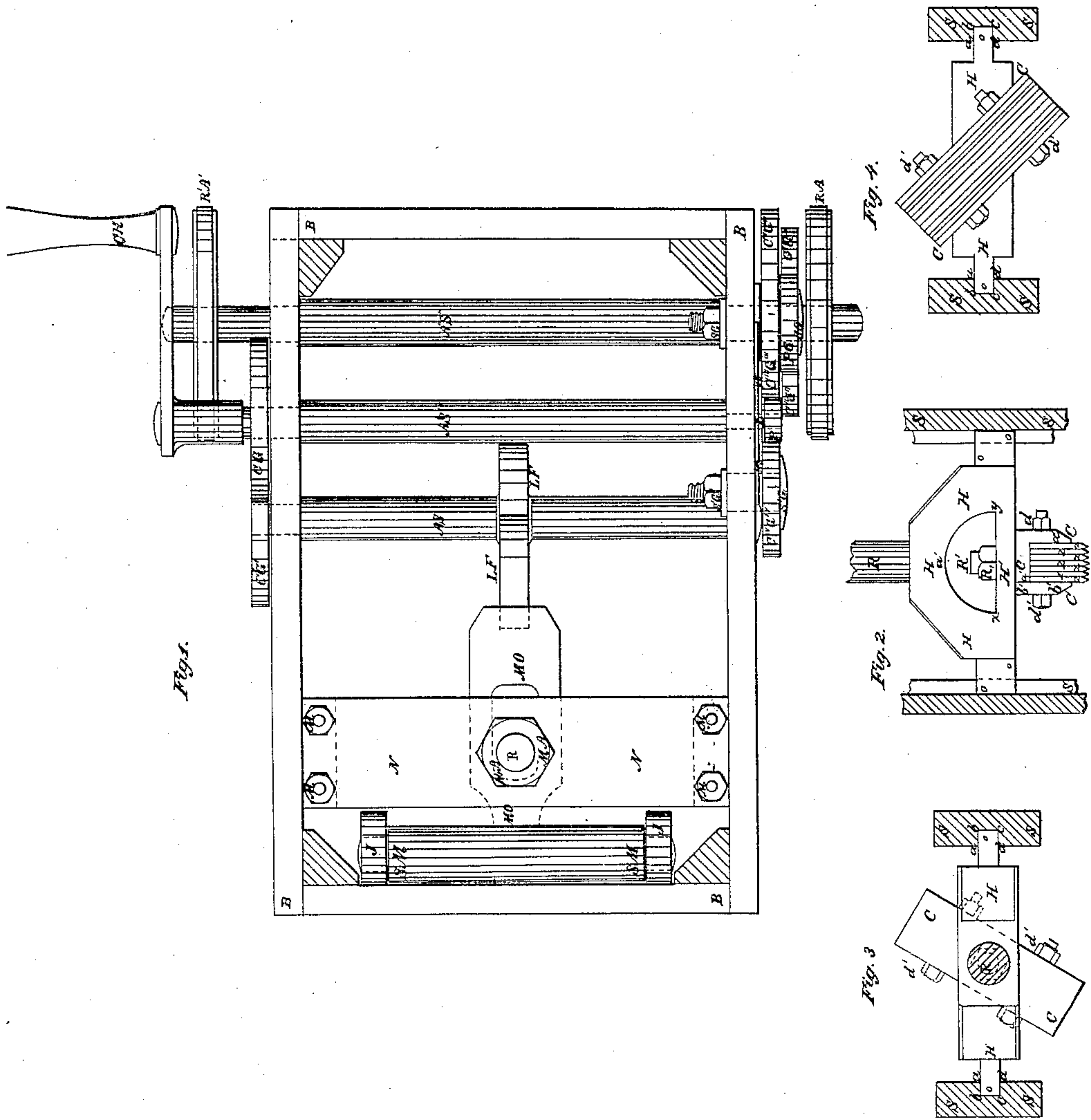
Witnesses.
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Charles H. Emery

Inventor.
B. S. Hunt

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Witnesses.

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B. S. HUNT, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 61,009, dated January 8, 1867.

IMPROVEMENT IN STONE DRESSERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, B. S. HUNT, of the city of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in "Stone Dressers;" and I do hereby declare that the following is a full and exact description of my invention, reference being had to the accompanying drawings, making a part of this specification, and in which—

Plate 1, Figure 1, represents an elevation of my stone dresser, showing the inside arrangement of the hammer, springs, and hammer-lifter, &c., and the outside gearing arrangement on one side.

Plate 1, Figure 2, represents a front sectional elevation of my stone dresser, showing a front view of the hammer, and the gearing on both sides.

Plate 1, Figure 3, represents an outside elevation of my stone dresser, showing the gearing on said side.

Plate 2, Figure 1, represents a plan top view of my stone dresser, showing the inside arrangement and relative positions of gearings and shafts, &c.

Plate 2, Figure 2, represents a front view of the hammer with the blade-holder fixed in a perpendicular position to the plane of the said hammer.

Plate 2, Figure 3, represents a top view of the hammer, showing another relative position of the blade-holder.

Plate 2, Figure 4, represents an under view of my hammer with the blade-holder in another relative position.

The nature of my invention consists in building a machine so contrived that, by means of its entirely mechanical action, any stone of any size or nature can be dressed with economy, both in time and labor.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

In the drawings, part of this specification, similar letters refer to similar parts.

I construct a rectangular (wooden or metallic) box or frame, B, having neither bottom or cover. Inside said frame B, and toward the middle of about the third of the length of frame, are set two upright pieces, S S, which, as sectionally shown in figs. 3 and 4, plate 2, bear a groove, *a b c d*, cut lengthwise on their centre, and into which will set and slide the guiding-ears or lugs *o* of the hammer, hereinafter described. On the top of both pieces S S, and by means of bolts, M M, is set cross-piece N N, through the centre of which is bored a hole, into which will pass the handle of the hammer. The hammer H R is composed, in one solid piece, of hammer H, ears *o*, and rod or handle R, the whole shaped as shown more particularly in figs. 1 and 2, plate 1. A circular aperture, *x x' y*, is made through hammer H, for the purpose hereinafter explained. Ears *o* are sized and shaped so as to fit in and slide easy into grooves *a b c d*. The cutter or blade-holder *c c* is composed of right-angular metallic piece *a' a'*, and piece *b' b'*, and blades *z z z*, made out of steel or any other suitable metal, the whole set and held together by means of bolts *d' d'*, as particularly shown in figs. 2, 3, and 4, plate 2, and figs. 1 and 2, plate 1. On the middle or centre of the top of piece *a' a'* starts up bolt R', which passes through a hole bored into the centre of sole H' of hammer H, and nut R, finding its place on top of said sole under the circular space *x x' y*, is set on bolt R', and secures in proper position the cutter to the hammer. Being thus completed, the hammer is placed in the box so as to have ears *o* fitting into grooves *a b c d*, and the handle-rod R running upwards through metallic pieces M O Z, and spring S P, the purpose and place of which pieces to be hereinafter explained and described, and clear through cross-piece N. Annular piece or washer Z is next secured on rod R by means of bolt A, so as to maintain metallic spring S P in proper place and stiffness. Metallic piece M O, shaped as shown in elevation, fig. 1, plate 1, and in plan, fig. 1, plate 2, has its small or fore end set in and secured to shaft S M, which is itself set against and parallel to the front side (inside) of frame B, held there in proper place by upright bearings or journals, J, into which S M must revolve freely. Bolt A', running through piece M O and centre of rod R, connects them both, so as to enable M O to act on rod R as a lever, the fulcrum of which is on shaft S M, above described. A spring, S' P', is furthermore set on rod R, above cross-piece N, and is regulated by nut M A, its spring, S' P', being to regulate the more or less stiffness of spring S P, and consequently the strength of each stroke of the hammer. Now, to describe the gearing and its effect on the hammer, I will, in the hereinafter description, suppose that I face the end of the machine where the hammer has been placed, and will, subsequently, call right-hand side the side shown fig. 1, plate 1, and left-hand side the one shown in fig. 3, same plate. Three metallic shafts, A S, A' S', A'' S'', run clear through both right and

left sides of box B. On the left end of shaft A' S' is keyed, or otherwise secured, a cog-wheel, C G, which gears with and drives cog-wheel C' G', keyed, or otherwise secured, on left end of shaft A S. The said shaft A S bears on its centre metallic lifter L F, fig. 1, plate 1, and fig. 1, plate 2, having as many arms as may be deemed necessary, the length and strength of said arms being so calculated as to allow each of them to catch under and lift up in turn piece or lever M O. Each arm on its upper face is bevelled or made circular on the end, so as to allow piece or lever M O to escape and fall down alternately. A crank-handle, C H, being set and keyed, or otherwise secured, on left end of shaft A' S', if I act on said handle in the direction shown by arrow *d e*, fig. 3, plate 1, cog-wheel C G will drive shaft A S and its lifter, which, catching lever M O alternately with all its (the lifter's) arms, will give the hammer and its cutter a regular up-and-down motion, the stiffness or strength of each stroke being easily regulated by means of nut M A, as above explained. The machine being placed upon any stone, if the hammer is set in motion as has been above described, the part of the stone which it strikes will soon be neatly dressed.

So far as the motion of the hammer is concerned my machine is completed; but to render it as perfect as I could I had to find some means by which to avoid the trouble of pushing the machine or the stone forward or backward as the dressing operation might require; I have therefore rendered my machine locomotive in the following manner: I first set the front part of the box on two casters or swivel-wheels of sufficient strength. Now, on shaft A' S' I have set wheels R A, R' A', on which the hind part of my box sits. Immediately after wheel R A, and on same shaft, is keyed, or otherwise secured, cog-wheel C'' G'', gearing with pinion P G, said pinion being set fast on centre of cog-wheel C''' G''', which is itself set on stud S G, on which it revolves freely. C''' G''' gears with smaller cog-wheel C'' G'', also set on a stud, S' G'. On the right end of shaft A' S' is set an upright lever, L, and a small pinion, P, which is keyed, or otherwise secured, on said shaft, consequently driven by said shaft independent of lever L, through which the shaft passes freely. On lower end of lever L, and gearing with pinion P, is a pinion of same size, P', and set on a stud attached to L. Lastly, on the back or inside face of lever L is a small lug or catch, which has for object to catch into notches N S, cut into circular plate M K, thereby maintaining lever L inclining either forward or backward, or right perpendicular. Now, when lever L is pushed towards the hammer, or forwards, pinion P' will gear with cog-wheel C''' G''', and if handle C H is set in motion as shown by arrow *d e*, pinion P, being thus driven from right to left, will drive pinion P' from left to right, cog-wheel C''' G''' and pinion P G from right to left, cog-wheel C'' G'' and shaft A' S' from left to right, and the machine will subsequently back, in the mean time the stone dresser or hammer striking. Lever L being set in the contrary direction, viz, pushed and set backwards, would gear pinion P' into cog-wheel C'' G'', the above-described gearing movement would be reversed, and the machine would go forward while the hammer would strike. Hind-wheels R A, R' A' are provided with rims made of India rubber, gutta percha, leather, or any equivalent material, so as to prevent said wheels, in consequence of the weight of the machine, injuring any stone into which it might be set in motion. It will easily be seen that the machine can be run both ways, either on the top of the stone to be dressed, or the stone passing under the machine between the wheels. Fig. 2, plate 1, and figs. 2, 3, and 4, plate 2, show that the cutter can be set into any position to suit the taste of the operator or the requirements of the work to be done. It is also easily seen that the number of blades to be used in the cutter is entirely optional, and can be indicated only by the teachings of practical experiments. Nor do I want to limit myself to using blades only, but I do reserve to construct my cutter with points or plates or blades of any shape, as the case or work may require.

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

1. The hammer H R, and its cutter *c c*, constructed and combined with lever M O, lifter L F, and springs S P and S' P', regulating nut M A, so as to obtain the intended and herein-described effect.
2. Lever L, pinions P and P', with gearing and ungearing movement, plate N S with notches, and lug N S, NS, when combined and constructed in the manner and for the purpose above described and set forth.
3. Wheels R A and R' A', provided with a rim made of India rubber, gutta percha, leather, or any equivalent substance, when combined and constructed in the manner and for the purpose above described and set forth.

B. S. HUNT.

Witnesses:

SAMUEL L. TAYLOR,
CHARLES H. EVANS.