

(No Model.)

2 Sheets—Sheet 1.

J. HNGEN.

LEVER FOR STONE CHANNELING MACHINES.

No. 454,589.

Patented June 23, 1891.

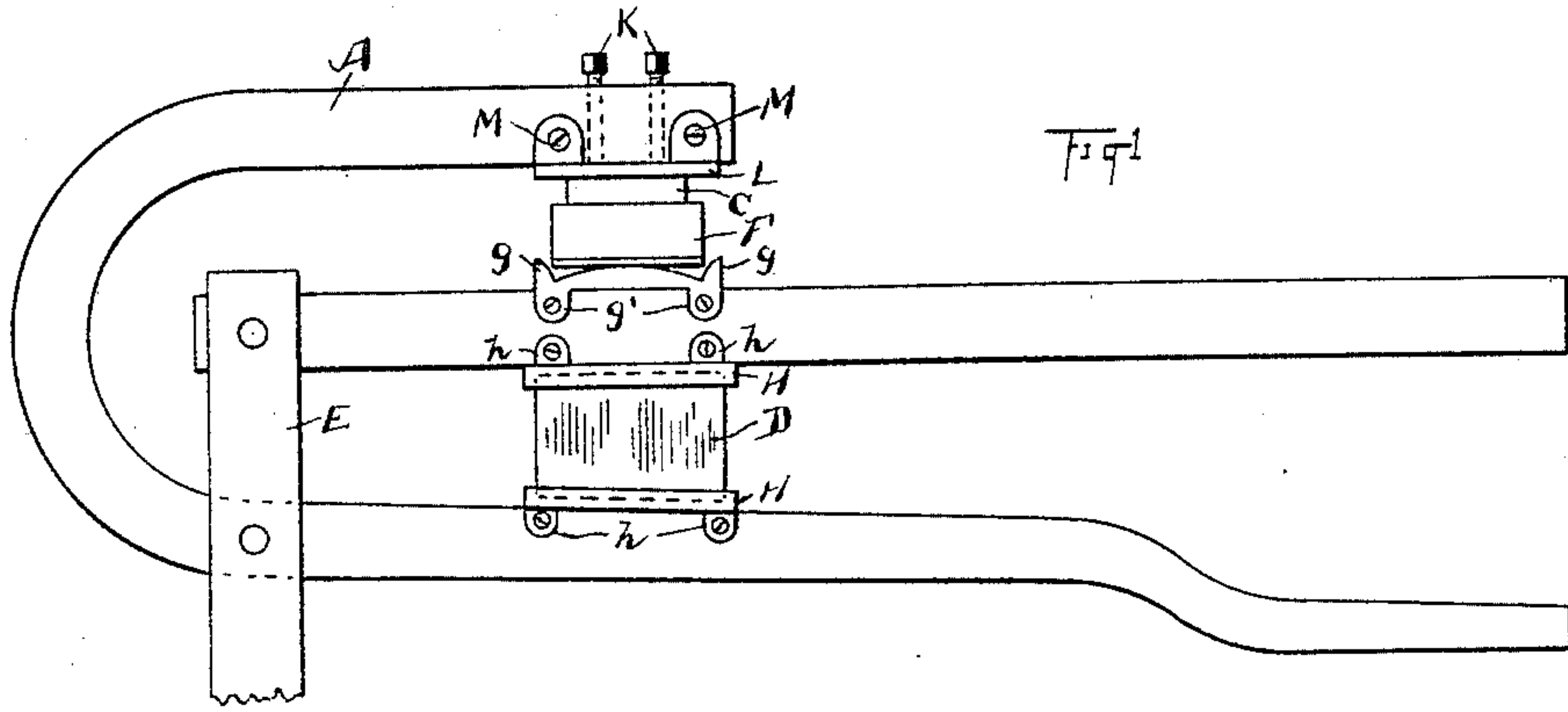


Fig 2



Fig 4

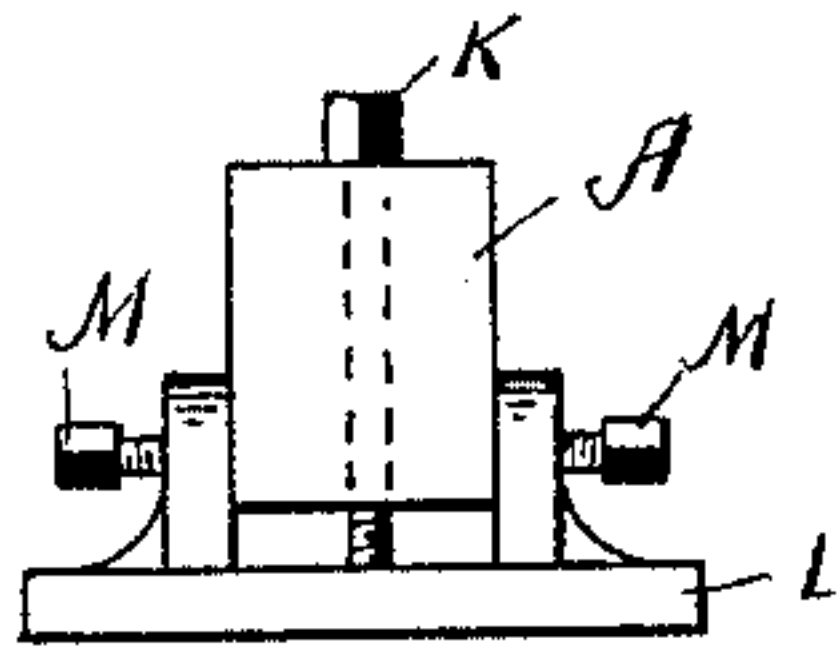


Fig 5

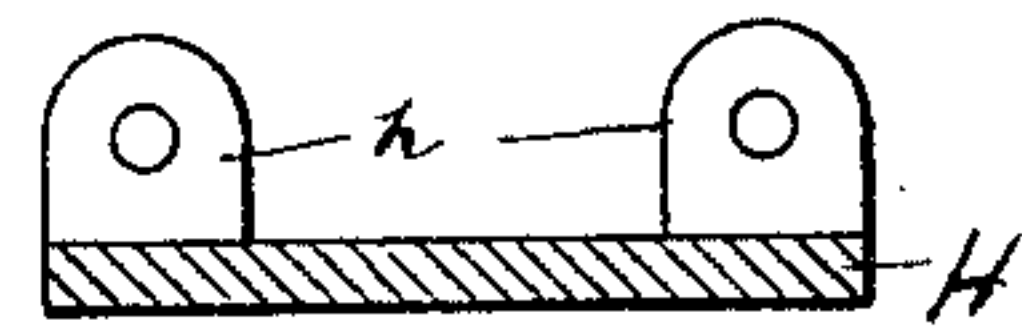


Fig 3

Witnesses
Richard Moser.
E. Byron Gilchrist

Inventor
Jacob Hngen

By his Attorney

H. T. Fisher.

(No Model.)

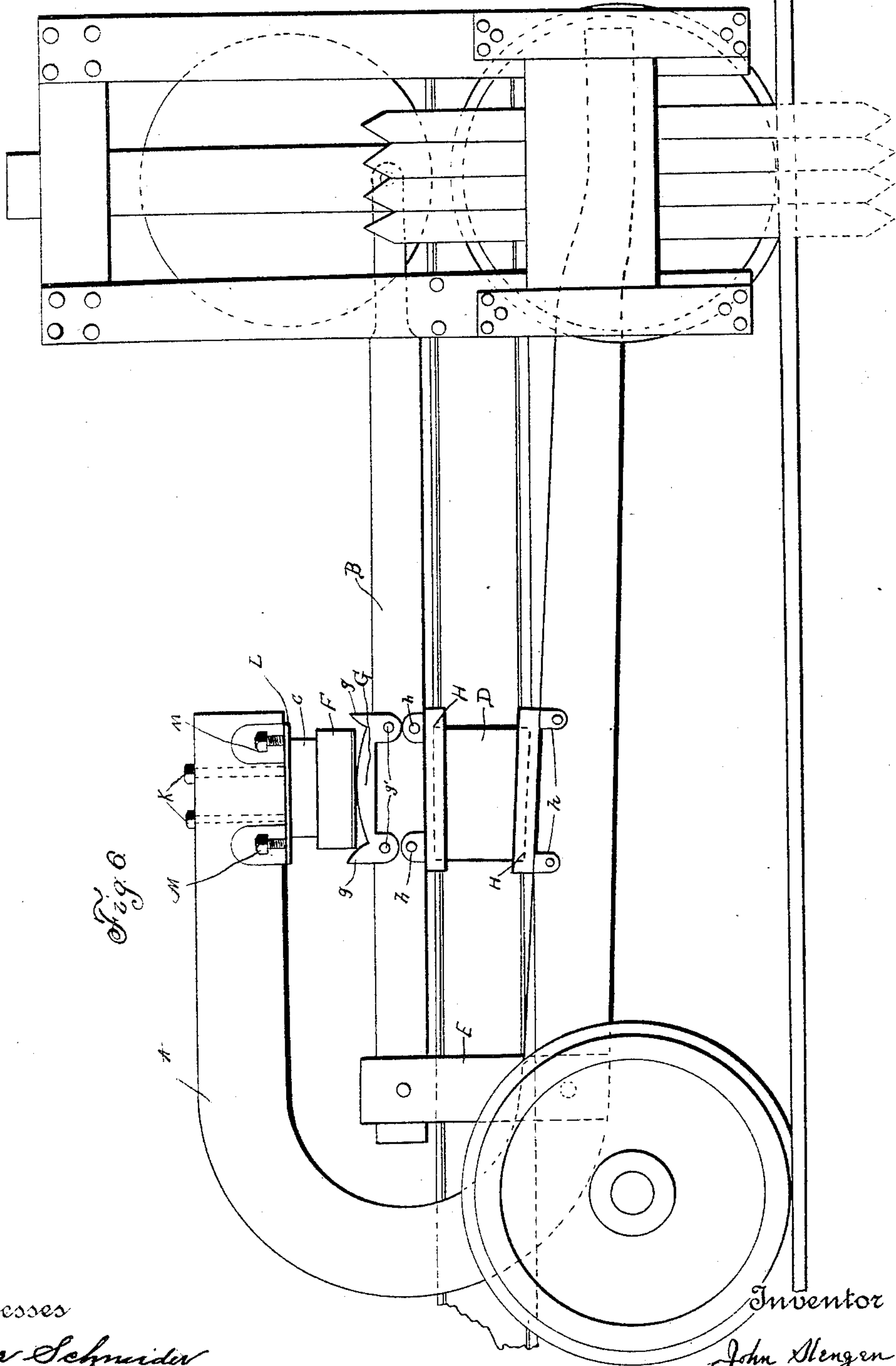
2 Sheets—Sheet 2.

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LEVER FOR STONE CHANNELING MACHINES.

No. 454,589.

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Witnesses
Victor Schneider
H. L. McLane

Inventor
John Hengen
By his Attorney
H. T. Fisher.

UNITED STATES PATENT OFFICE.

JACOB HENGEN, OF NORTH AMHERST, OHIO.

LEVER FOR STONE-CHANNELING MACHINES.

SPECIFICATION forming part of Letters Patent No. 454,589, dated June 23, 1891.

Application filed August 23, 1890. Serial No. 362,858. (No model.)

To all whom it may concern:

Be it known that I, JACOB HENGEN, a citizen of the United States, residing at North Amherst, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Levers for Stone-Channeling 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.

My invention relates to improvements in levers for stone-channeling machines, and is an improvement particularly on the style of lever employed in what is known as the "Wardwell channeling-machine."

In the machines upon which this invention is an improvement two levers are employed which are pivotally connected at one end and united by stirrups a short distance from the pivot-point, with a rubber spring interposed between the levers and another rubber spring between the connecting-plate on the yokes and the upper lever.

In the operation of the machine excessive strain is brought upon the levers at the point where they are connected by the stirrups, and it follows in consequence that the stirrups are exceedingly liable to be broken and are repeatedly and frequently broken, entailing considerable expense and loss of time in having them replaced. I have overcome this objection by forming a lever with a curved overreaching end, between which end and the body of the lever the necessary springs and another lever forming part of the construction are interposed. This enables me to dispense entirely with the use of stirrups and to form a combination which is durable and serviceable, and which is not liable to breakage, as in the case of the construction referred to.

To this end the invention consists in a lever constructed substantially as shown and described, and in the arrangement of the springs and other parts, all as particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved lever and the associated parts. Fig. 2 is an end view of the upper arm of the main lever with the adjusting-plate in position thereon. Fig. 3 is a sec-

tional view of said plate alone. Fig. 4 is an inside plan view of one of the lower rubber-supporting plates, and Fig. 5 is an end view thereof. Fig. 6 is a side elevation of so much of a complete channeling-machine as is necessary to show the relation and position of my improved lever mechanism.

A represents my improved lever, which is formed by bending one end thereof around substantially in hook shape with the bent end or overlapping arm practically straight and substantially in parallel lines with the body of the lever beneath the arm. The space between these two parts of the lever is designed to be just sufficient to introduce the second lever B, with interposed springs C and D, which are designed to serve the same purpose as springs in the well-known machine upon which this is an improvement. The lever B is pivoted at its inner end upon the upper portion of the fixed upright E, which forms a permanent part of these machines, and the lever A is likewise pivotally connected with upright E, just back of the point at which it is bent or curved to form the upper and overhanging arm. The upright E extends just high enough to bring the lever B midway between the body and the overhanging arm of lever A, and the springs C and D are located forward of the pivot-point and between the extremity of the said arm and the body of lever A.

A suitable cup F serves to hold the rubber C, and this cup is supported on a convex rocker-base G, to compensate for the back-and-forth movement of the overhanging arm of lever A. This base-plate has upwardly-projecting portions *g* at its ends serving to confine cup F and ears *g'*, through which it is fastened upon lever B. A rubber spring-block D is secured between the body of lever A and lever B, forward of their pivot-points, by means of two corresponding flanged plates H, fastened, respectively, to levers A and B, through ears *h* on said plates.

The tension of the springs C and D is controlled by the set-screws K, which pass down through the end of the arm of lever A, and bear upon the plate L, which forms the upper bearing-surface for the rubber-block C. Set-screws M likewise are provided for this plate, which pass through the ears thereof and serve

to support said plate upon the said arm. These improvements are adapted to be placed not merely upon new machines, but are likewise adapted to be attached to machines now
5 in use, and the size of the respective parts and their construction and arrangement are such as to make such adaptation easy and convenient.

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

1. A lever for a channeling-machine, having an overhanging arm substantially parallel to the body of the lever; an intermediate
15 lever pivoted at its rear end, and separate springs, one above the other, between said levers, substantially as described.

2. A lever having one end bent substantially in hook shape, an intermediate lever,
20 and springs between said levers, substantially as described.

3. A lever having one end bent around parallel to the body thereof, a second lever midway between the parallel portions of the first-
25 named lever, and springs on opposite sides of the second lever bearing on the first, substantially as described.

4. The main lever having an overhanging arm, an intermediate lever having a rocking
30 plate, and springs between said levers above and below the intermediate lever, one of said

springs on said rocking plate, substantially as described.

5. A lever for a channeling-machine, having a convex rocking plate fixed thereon, a main
35 lever bent and extending forward over said plate, and a cup and spring between said parts, and a second spring beneath the upper spring and between said levers, substantially
40 as described.

6. The main lever having an overhanging arm and a bearing-plate for the spring adjustable on said arm, in combination with the
intermediate lever and the spring supported thereon and a second spring between said le-
45 vers beneath the intermediate lever, substantially as described.

7. The main lever, bent substantially in hook shape at one end and having its pivot-
point at the beginning of the bend, a lever
50 pivoted centrally in said hook portion, and springs between said levers in front of their pivots, the main lever forming both the outer bearings or supports for said springs, sub-
stantially as described. 55

Witness my hand to the foregoing specification this 1st day of August, 1890.

JACOB HENGEN.

Witnesses:

H. G. REDINGTON,
HENRY HIRSCHING.