

S. F. HODGE.
STAMP HEAD FOR QUARTZ CRUSHERS.

No. 33,993.

Patented Dec. 24, 1861.

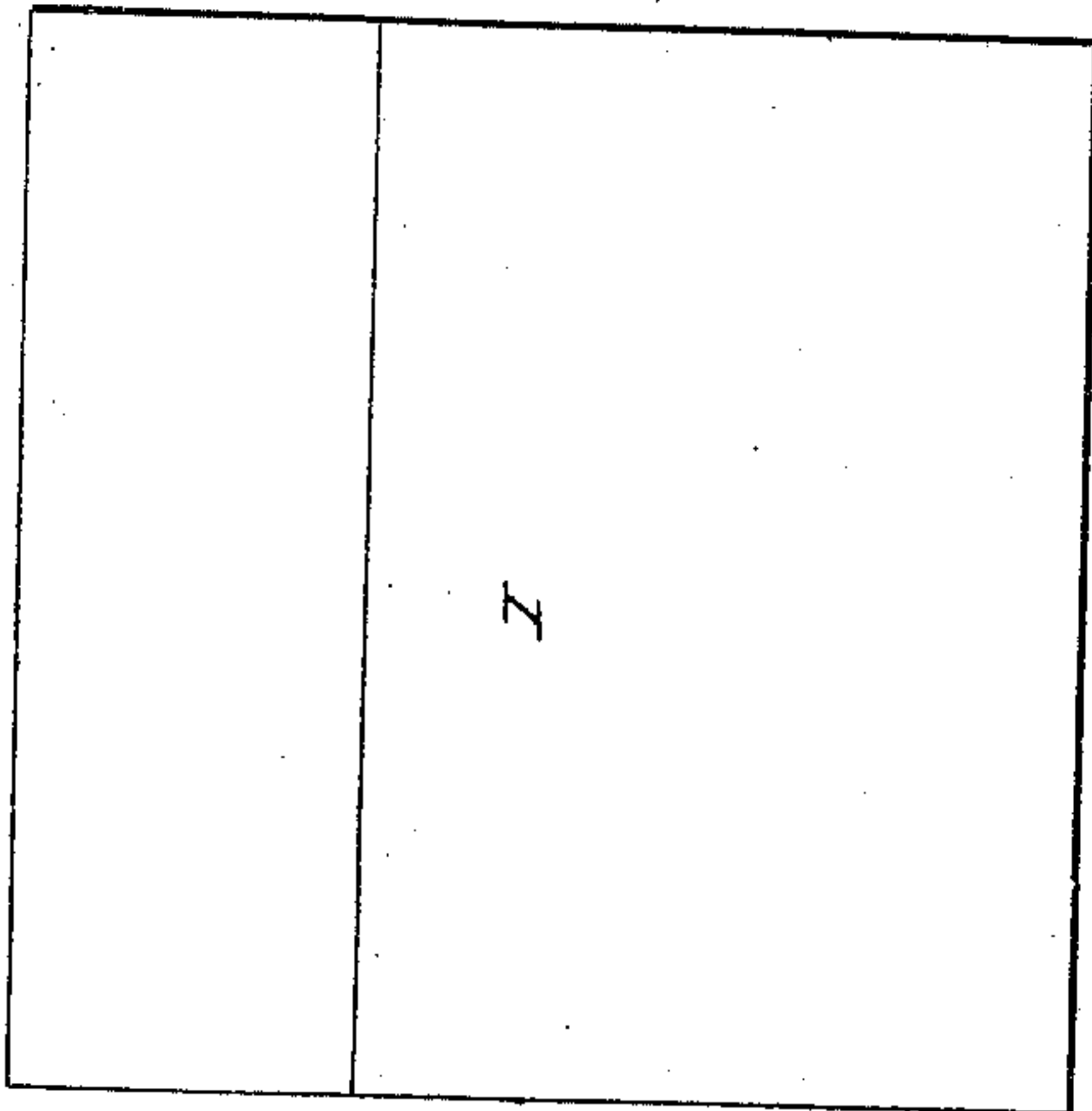


Fig. 2

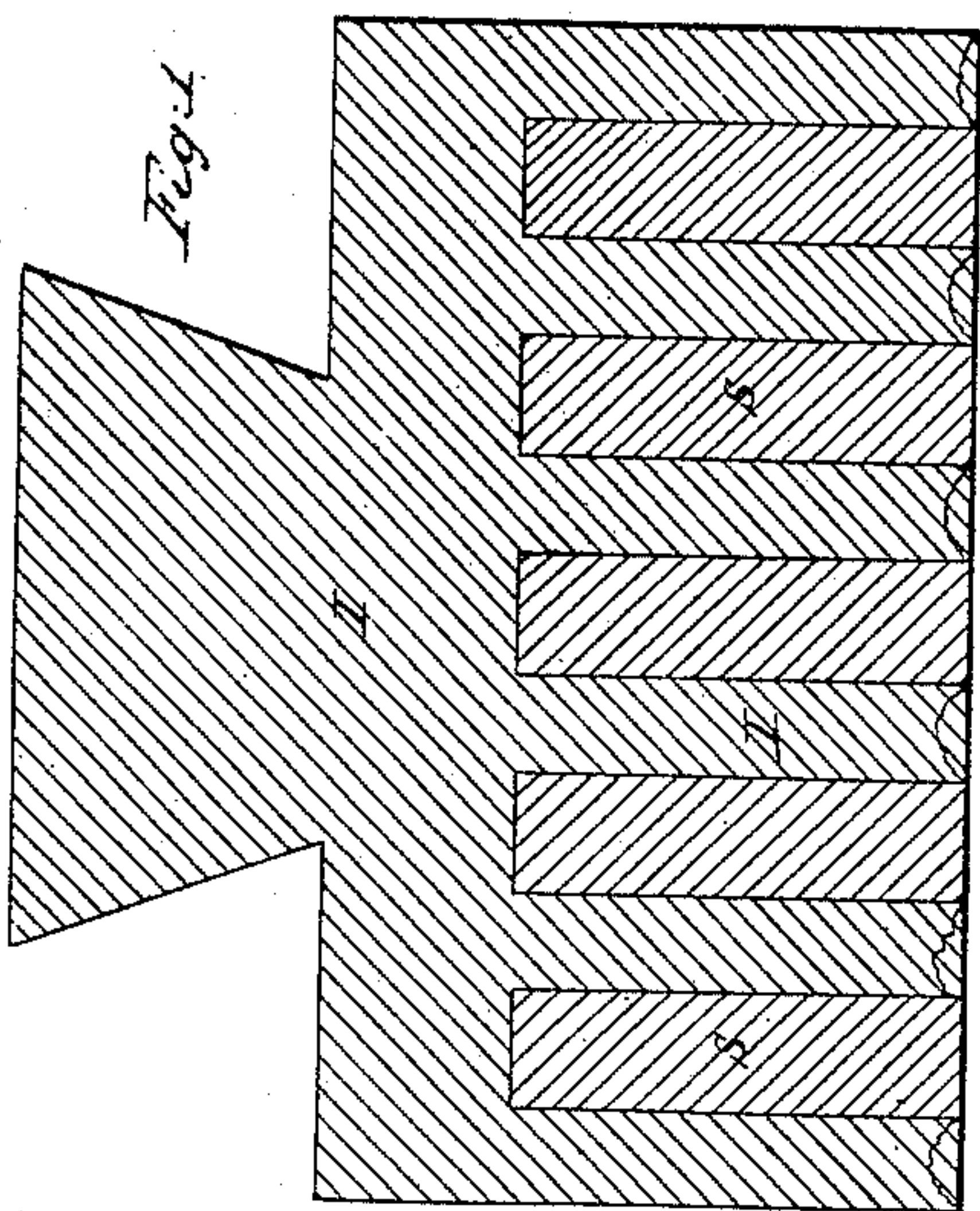


Fig. 1

Witnesses
Robt. W. Pennington
Delbert C. Lawrence

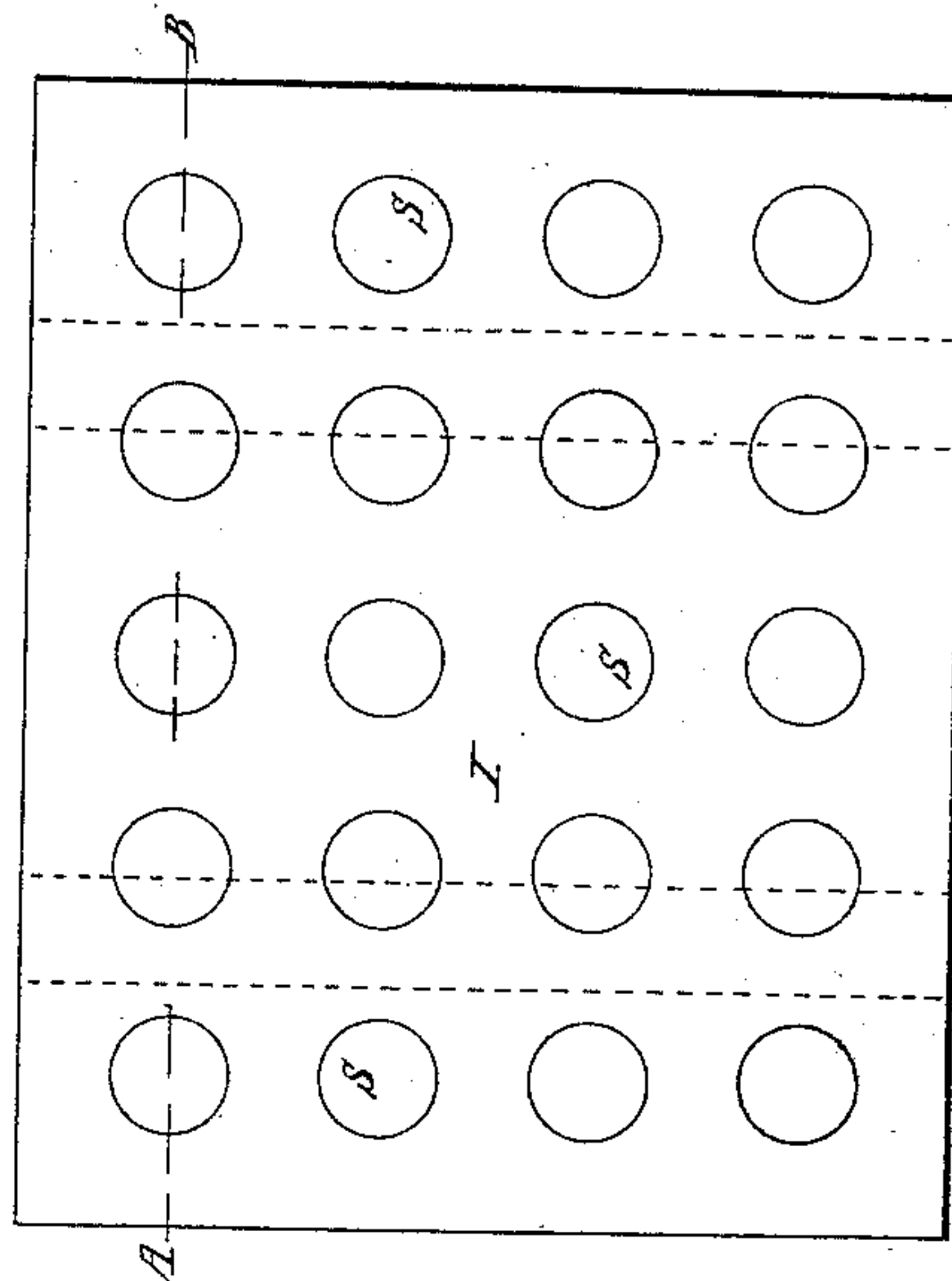


Fig. 3

Inventor
Samuel F. Hodge

UNITED STATES PATENT OFFICE.

SAMUEL F. HODGE, OF DETROIT, MICHIGAN.

IMPROVED STAMP-HEAD FOR QUARTZ-CRUSHERS.

Specification forming part of Letters Patent No. 33,993, dated December 24, 1861.

To all whom it may concern:

Be it known that I, SAMUEL F. HODGE, of Detroit, in the county of Wayne, in the State of Michigan, have invented a new and Improved Method of Making Stamp-Heads for Stamping-Mills or Quartz-Crushers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

My invention relates to a novel and improved mode of making stamp-heads, the stamp-head being constructed in any of the known forms now in use.

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

For the purpose of casting my stamp-head I use a mold or matrix like those ordinarily used by furnace-men, placing therein vertically a number of cast-steel or wrought-iron bars, so that the ends of said bars shall be presented vertically to the wearing-surface or working-face of the stamp-head, as represented in the drawings. These vertical bars are so set in the mold that when the cast-iron is flowed around them the bars will be separated from each other a sufficient distance to permit of valleys or corrugations or undulations or honey-comb cavities to be formed between the said bars by reason of the gradual wearing away of the cast-iron working-face of the stamp-head, due to its use, and to secure the bars permanently in place within the cast-iron portion of the stamp-head, screw-threads, previous to their insertion within the mold, may be cut around their ends opposite their working-face, thus preventing their becoming loose and working out of the body of the stamp-head after the cast-iron has once become cooled and "set" around them. By this combination of cast-iron with cast-steel or wrought-iron bars a stamp-head is produced which is far more effective in the re-

duction of ores than the ordinary stamp-heads now in use, which are made of cast-iron entire, whether chilled or not, or entirely of steel, and which by reason of their construction present an uninterrupted plane working-surface to the ore. It is obvious that by making the bars of a softer metal than the main portion or body of the stamp-head the same effect will in a measure be produced.

All stamp-heads as now made have a tendency to wear away more at the corners and edges than in the middle, so that the working-face soon becomes rounded and inefficient, whereas in my stamp-head the steel bars are so disposed near the edge of the head as to obviate this difficulty.

In the accompanying drawings, Figure 1 is a vertical section of my improved stamp-head; Fig. 2, an end view of same, and Fig. 3 a plan of the working-face.

S S S are the steel or wrought-iron bars. I is the cast-iron which surrounds them.

I disclaim the construction of stamp-heads when made entire of cast-iron, whether made in one piece or in sections and whether chilled or not, and I also disclaim the making of stamp-heads entirely of steel, and whether made in one piece or consisting of a cluster of cast-steel rods.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The construction of stamp-heads for crushing ores of two metals, one of which is of greater durability than the other, the two metals bearing the relation to each other described, so as to wear away unequally on the working-face of the stamp-head, and thus insure the gradual production of an undulating, corrugated, or honey-comb crushing-face.

SAMUEL F. HODGE.

Witnesses:

ISAAC DE GRAFF,
JOHN STIRLING.