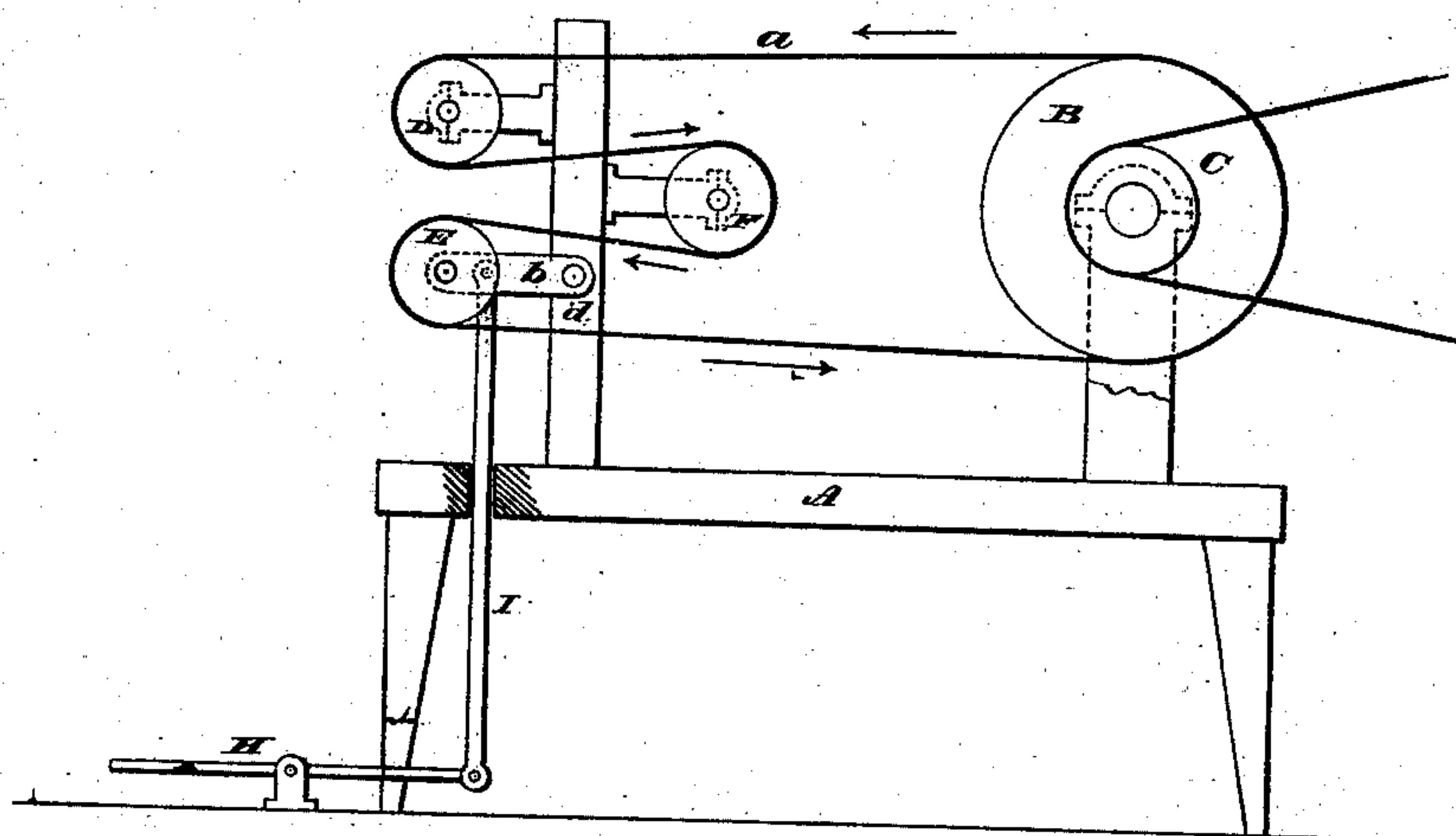


(No Model.)

J. KAHL.
POLISHING APPARATUS.

No. 258,076.

Patented May 16, 1882.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN KAHL, OF WALLINGFORD, CONNECTICUT.

POLISHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 258,076, dated May 16, 1882.

Application filed March 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN KAHL, of Wallingford, in the county of New Haven and State of Connecticut, have invented a new Improvement in Polishing Apparatus; and I do hereby declare the following, when taken in connection with accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents a side view.

This invention relates to a device for polishing or cutting down thin plates or strips of metal—such, for instance, as blanks for forks and spoons, knife-blades, and like articles.

The usual method of doing this class of work is for a skillful workman to apply the blank to a grinding or polishing wheel first one side and then the other; but this requires the utmost skill in order to produce a perfectly-flat surface. Again, the surface of the grinding-wheel wears away rapidly, and as the diameter decreases the greater skill is required. In some cases an endless belt has been used, having its outer face coated with the polishing material; but in such arrangement the great difficulty of polishing but one side at a time exists.

The object of my invention is the construction of a device readily adjustable to different thicknesses, and whereby both surfaces may be ground and polished at the same time without the necessary employment of the skilled workmen required in the usual method; and the invention consists in an endless rapidly-running band having its surface coated with the polishing material and passing around a pair of drums, and between the drums led to another distant drum, whereby the band will present the same working-face on the two drums adjacent to each other, and so that the work introduced between the said adjacent surfaces of the band will receive the action of the band upon both its surfaces, as more fully hereinafter described.

A represents the table on which the apparatus is arranged. B is the main or driving pulley, to which the power is applied through a pulley, C, or any convenient manner, to impart a rapid revolution thereto. D is the pulley or drum, arranged at a convenient position

near the front of the table. E is a second pulley or drum, corresponding to the drum D, arranged with its axis parallel to the axis of the drum D. F is a third drum, arranged in a line between the axis of the two drums D E, but carried back toward the driving-pulley B.

The band *a* is made from any suitable flexible material, and has one surface coated with a grinding or coating material—such, for instance, as emery, or what is commonly called “vulcanite,” and which will cut the metal with which it comes in contact. This band passes around the driving-pulley B, over the drum D, backward and around the drum F, forward and around the drum E, thence to the pulley B, and so that the outer surface of the band is presented between the two drums D E. Hence the metal introduced between the two runs of the band will come in contact with the two working-surfaces of the band, the one running in one direction and the other in the opposite direction, and thus operate upon the two surfaces of the metal at the same time without any tendency to draw that metal in either direction, the strain coming upon one side counteracting the strain coming upon the other side.

In order to adapt the apparatus to varying thicknesses of metal to be ground, one of the drums—say E—is hung by an arm, *b*, upon a pivot, *d*, so as to be readily moved toward or from the other drum, D, and this movement may be imparted by the foot of a workman on a treadle, H, through a connecting-rod, I, as shown, or otherwise; or, if preferred, the two drums D E may be adjustable each toward the other, whereby the two working-surfaces of the band may be brought nearer together or farther from each other, according to the thickness of the metal to be operated upon.

The two drums D E may be set at a predetermined distance from each other, corresponding to the thickness of the metal to be operated upon, so that the operator has simply to pass the piece of metal to be polished inward between the two working-surfaces of the band, and once passed through the work is done, and this may be done by any person unskilled in the art of grinding or polishing. The band running in opposite directions prevents any part of the piece being accidentally taken from

the hand of the operator, or any irregular grinding, as must be the case where the grinding-surface runs in one direction only.

What I claim is—

5 1. The combination of the two drums D E, the intermediate drum, F, and the endless driven band *a*, having its surface coated with the grinding or polishing material and running
10 around one of the said drums, D, thence around the intermediate drum, F, thence around the other drum, E, whereby the same working-surface of the band is presented between the two drums D E opposite to each other, with mechanism, substantially such as described, to impart
15 to said drums a rapid revolution, and to the said band a corresponding rapid and constant movement, substantially as described.

2. The combination of the two drums D E, the intermediate drum, F, and the endless driven band *a*, having its surface coated with the grinding or polishing material, and running
20 around one of the said drums D, thence around the intermediate drum, F, thence around the other drum, E, whereby the same working-surface of the band is presented between the two drums D E opposite to each other, one or both
25 of the said drums D E made adjustable to vary the distance between the working-surfaces of the band, substantially as described.

JOHN KAHL.

Witnesses:

JOHN E. EARLE,
JOS. C. EARLE.