No. 609,847. Patented Aug. 30, 1898.

J. A. SUMNER.

MACHINE FOR SHARPENING AGRICULTURAL IMPLEMENTS, &c.

(Application filed Nov. 2, 1897.)

(No Model.)

Fig. 1.

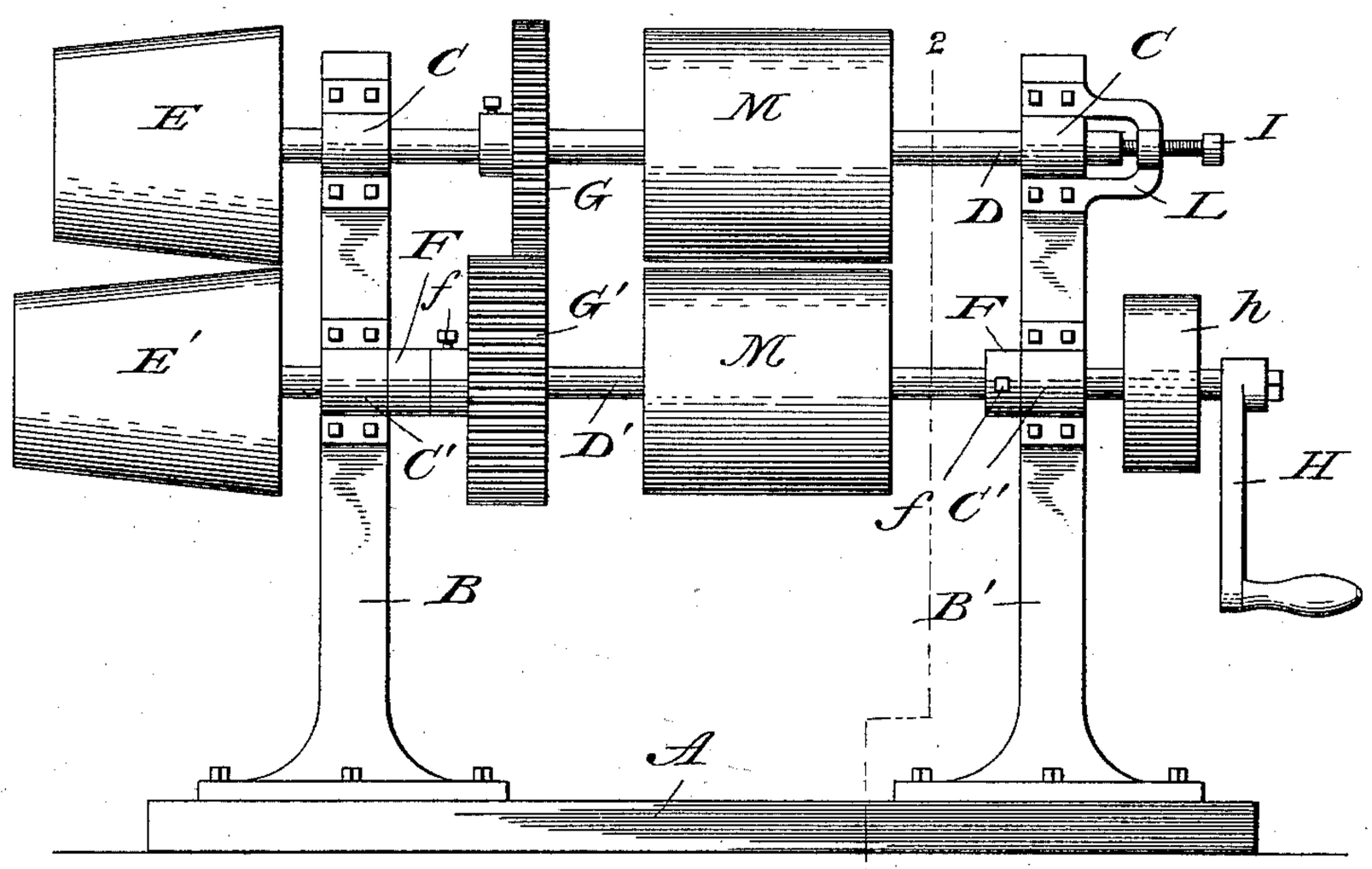


Fig. 2.

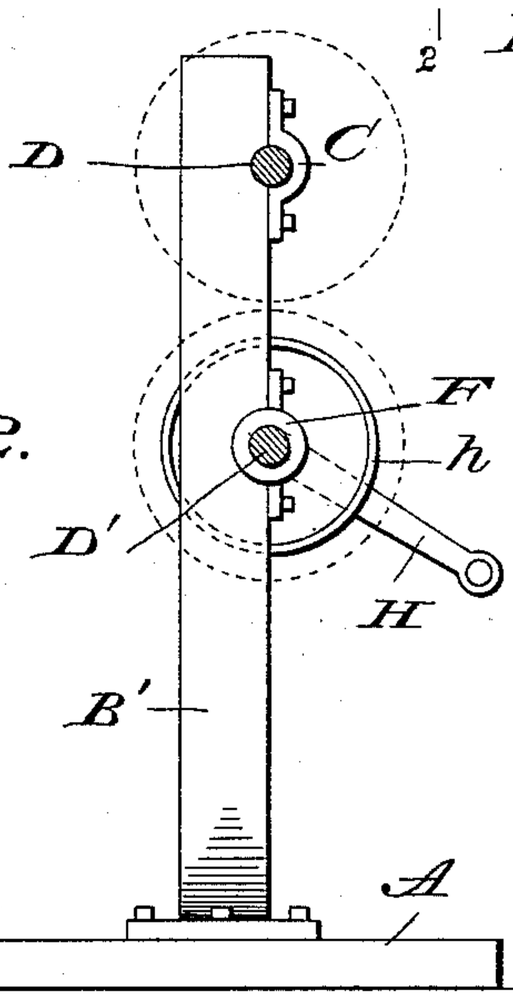


Fig. 3.

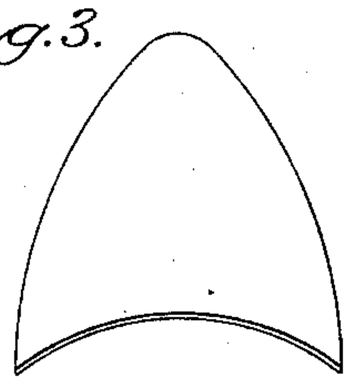


Fig. 4.

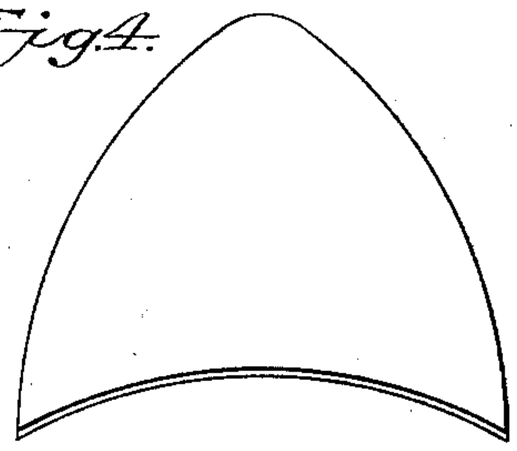
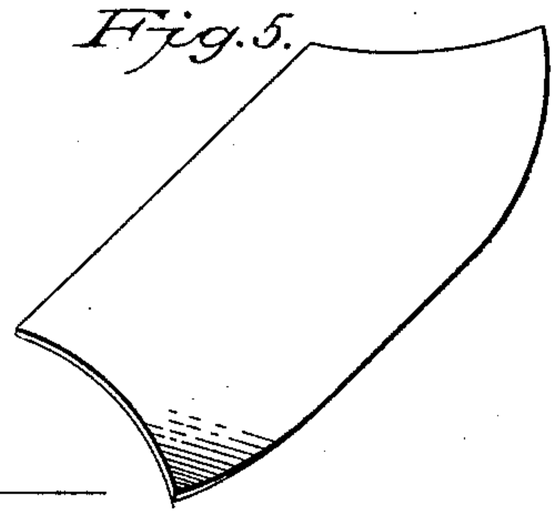


Fig. 5.



WITNESSES

L. S. Elliott.

Grafton L. McGill.

INVENTOR:

John A. Sumner,

by John B. Thomas & Co.

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN A. SUMNER, OF TILLAR, ARKANSAS.

MACHINE FOR SHARPENING AGRICULTURAL IMPLEMENTS, &c.

SPECIFICATION forming part of Letters Patent No. 609,847, dated August 30, 1898.

Application filed November 2, 1897. Serial No. 657,153. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SUMNER, a citizen of the United States, residing at Tillar, in the county of Drew and State of Arkansas, have invented certain new and useful Improvements in Devices for Sharpening Agricultural-Implement Fixtures, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in rolling-mills or similar appliances, the object of my said invention being to provide an apparatus embodying in its construction and arrangement of parts peculiar features which make it especially useful in a blacksmith-shop for the purpose of sharpening agricultural-implement fixtures, beveling plates of metal, and reducing the thickness of iron bars.

The invention contemplates the production of an apparatus for the above-mentioned purposes which is simple and compact, occupying but a comparatively small space and affording a convenient means of sharpening or beveling agricultural tools, possessing adjustable features by which the extent of the bevel or thickness of the edge can be made to suit.

To these ends and to such others as the invention may pertain the same consists, primarily, in the combination of a pair of conical or tapered rolls fixed upon the outer ends of shafts which are journaled in bearings carried by suitable standards, gearing between the shafts for rotating them in opposite directions, means for turning one of the shafts, and a device engaging the inner end of the other shaft for adjusting the same longitudinally, together with plain or cylindrical rolls mounted upon the intermediate portion of the shafts one above the other.

The following specification gives a detail description of my invention, and what I claim to be new and useful will be particularly set forth in the appended claim.

In the accompanying drawings, which form a part of the specification, Figure 1 is a side elevation of my invention. Fig. 2 is a vertical sectional view on the line 2 2 of Fig. 1. Figs. 3, 4, and 5 are detail views of tools which my invention is especially adapted to sharpen, 3 and 4 being sweeps of different sizes, and 5 a scraper.

Referring more particularly to said drawings, A designates a base-plate, into which are stepped or otherwise rigidly secured posts or standards B and B′, said standards being braced to each other by one of the shafts hereinafter referred to. Upon one side of each standard are rigidly bolted upper and lower bearing-boxes C and C′, respectively, in which are journaled horizontal shafts D D′, which project at one end beyond the adjoining standard, and upon said ends are fixed conical rolls E E′. The larger ends of the conical or tapered rolls adjoin the standard B, leaving the outer ends free and presenting a wedge-shaped space between said rolls. The lower roll is longer than the upper roll, and the shaft of said lower roll is held against longitudinal movement by collars F F, which bear against the inner sides of the standards and are keyed to the shaft by set-screws *f*.

G and G′ designate gear-wheels which are fixed upon the shafts D and D′ and are in mesh with each other, so that the rotation of one shaft will turn the other in an opposite direction, and in order that the shaft D may be adjusted longitudinally, as hereinafter described, the lower gear-wheel G′ is wider than the gear-wheel G to insure at all times a proper meshing of said gear-wheels. The lower shaft is provided with the means for imparting motion to the shafts, and for this purpose the end of said shaft opposite the conical roll thereon is squared to receive a crank-handle H, and adjoining said squared end is fixed a pulley *h* to receive a belt.

The upper shaft D has a longitudinal movement in its bearings in order that the conical roll carried thereby can be adjusted with respect to the other conical roll; and to secure this adjustment a set-screw I bears against the end of said shaft opposite the roll, the screw engaging a threaded opening in a yoke L, formed integrally with the upper bearing-box C on the standard B′. It will be noted that the set-screw is designed to only move the shaft in one direction—*i. e.*, forward—moving the upper conical roll away from the standard B to increase the space between the larger end of said roll and surface of adjoin-

ing roll. It will also be understood that the taper of the rolls will in operation tend to keep the movable shaft against the set-screw. This adjustability of one of the rolls adapts the apparatus for different classes of work, making it possible to give a plate a beveled surface near one edge and also regulate the extent of the depression or bevel, it being obvious that the greater the outward movement of the shaft D the wider the space between the inner end of the roll E and surface of the adjoining roll.

So much of my invention as hereinbefore described is especially useful in sharpening sweeps and scrapers of agricultural machines, and in this adaptation of the apparatus the inner edge of the adjustable roll E is brought into contact with the surface of the roll E′, as shown, the sweep or scraper when heated being passed between the rolls and a sharp edge or edges formed by pressing said sweep or scraper into the narrow end of the intervening space. In the operation of sharpening a sweep, scraper, or other agricultural-implement fixture it is manipulated by hand, the ends of the tapered rolls being free of any guide or other device that would interfere with the proper guiding of the tool during the operation.

To increase the usefulness of the apparatus, I provide the same with plain or cylindrical rolls M M, which are fixed upon the intermediate portions of the shafts between the standard B′ and gear-wheels G G′, said rolls being of a relative size to present a narrow space between them. These rolls are useful in reducing the thickness of bar metal, and when a wider or narrower space is desired said rolls can be readily removed and others substituted, the bearing-boxes being removably secured to the standards for this purpose.

From the foregoing description, in connection with the accompanying drawings, it is apparent that I provide an apparatus that is particularly adapted for a blacksmith's shop, reducing to a minimum the work of shaping metal plates and bars, the apparatus also possessing the advantages of simplicity and cheapness in construction and arrangement.

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

An apparatus for the purposes set forth, comprising parallel shafts journaled in bearing-boxes carried by posts or standards, one of said shafts having a longitudinal movement, conical rolls mounted upon the outer ends of the shafts one above the other, gearing between said shafts, and plain or cylindrical rolls mounted upon the shafts between the standards, together with a yoke carried by one of the standards, and a set-screw engaging a threaded opening in said yoke, the set-screw forming a stop for the movable shaft by contact with the inner end thereof, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. SUMNER.

Witnesses:

FRANK D. BLACKISTONE,

T. W. JOHNSON.