(No Model.)

J. M. CRUMM, Jr.

GRINDING MACHINE.

No. 578,596. Patented Mar. 9, 1897.

FIG. 3.

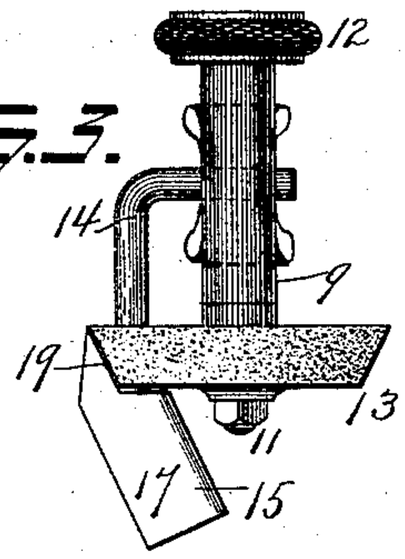


FIG. 1.

FIG. 2.

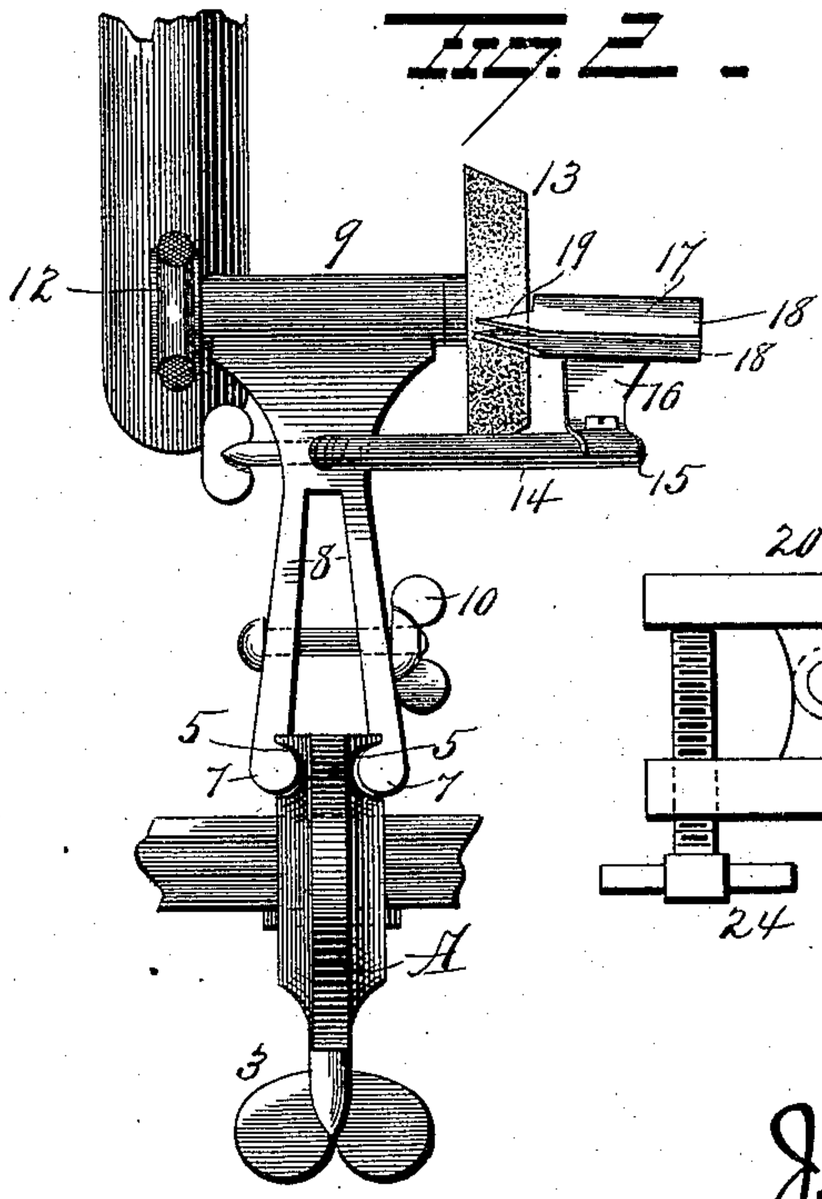


FIG. 4.

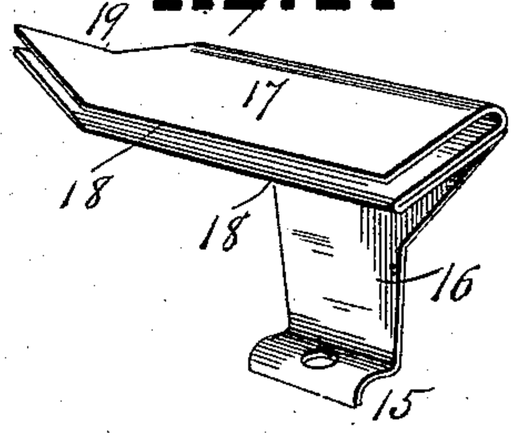
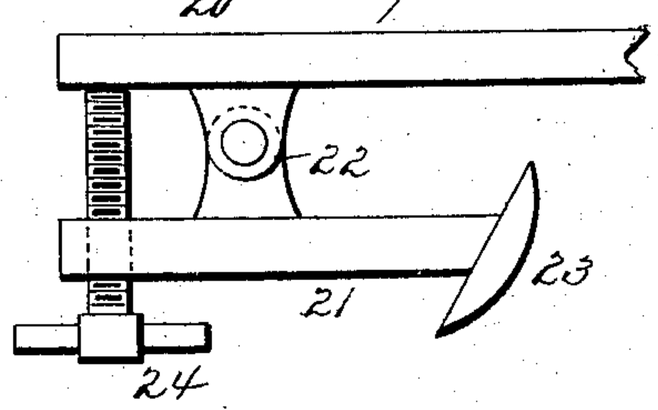


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH M. CRUMM, JR., OF TOPEKA, KANSAS.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 578,596, dated March 9, 1897.

Application filed May 7, 1896. Serial No. 590,587. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. CRUMM, Jr., of Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Grinding-Machines; 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 relates to an improvement in grinding-machines, the object being to provide a detachable device for attachment to the tables of power-machines, particularly sewing-machine tables, whereby scissors and other edge-tools may be rapidly sharpened or ground by the exercise of ordinary skill; and it consists in certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a view of my improvement applied in its operative position on a sewing-machine table. Fig. 2 is a detached view of the supporting bracket or clamp. Fig. 3 is a detached view of the vertical standard and connected parts. Fig. 4 is a detached view of the scissors or tool rest, and Fig. 5 is a view of a modified clamp.

A represents a supporting-bracket consisting of a long arm 1 and a short arm 2, integral therewith and parallel thereto, the short arm being provided with a screw-clamp 3, by means of which said bracket is firmly secured to a table. The longer arm is provided on its bottom face with soft and yielding bearings 4 for the purpose of preventing the top surface of the table from being scratched or otherwise injured by the bracket while the latter is being secured in its operative position. This arm is also provided on its side faces with oppositely-located grooves 5 5, which extend rearwardly from the free end of said arm and are adapted to constitute a grooved trackway for the accommodation of the lips 7 7, formed on the ends of bifurcated stem 8, which latter constitutes the lower part of standard 9. This standard is adjustably locked against accidental displacement by thumb-screw 10, which when tightened draws the lips 7 7 in contact with the grooved edges of the long arm and locks the standard against movement.

Mounted in the upper end of standard 9 is a shaft 11, on one end of which is secured a friction-wheel 12, while on the opposite end thereof is secured a beveled emery-wheel 13. Friction-wheel 12 preferably consists of a metal body and a rubber tire, as illustrated in the drawings, so that in the event it is desired at any time to rotate shaft 11 by means of a belt instead of by friction it can be accomplished without any trouble or additional expense by simply removing the rubber tire and substituting a power-belt therefor.

Removably secured to the standard 9 is the bent arm 14, which latter carries at its free end the rest 15. This rest is preferably made of sheet metal and consists of a vertical section 16 and an inclined guide 17, the latter being integral with the vertical section and formed by bending the upper end of the latter over onto itself, forming parallel walls or sides 18 18, which latter are separated sufficiently for the introduction between them of a blade of ordinary scissors.

The metal blank from which the combined guide and its support are formed is considerably widened at its end from which the guide is formed than at its other end. Hence the guide is considerably longer than the width of the standard, and the end thereof adjacent to the emery-wheel is cut away, as at 19, so as to permit the guide to rest well over the beveled face of the emery or grinding wheel. This guide is located at a slight inclination with relation to the grinding-surface of the wheel, so that a blade placed in the guide and held against the wheel will have its edge ground on a slight bevel, as scissors are ordinarily sharpened. Hence with this device scissors can be sharpened by unskilled persons by the exercise simply of a little care to prevent undue grinding at any one part of the blade.

The outer side face of emery-wheel 13 is provided with a series of circular grooves 29, which are designed for repointing needles and other pointed articles.

In the modified form of clamp shown in Fig. 5 long arm 20 and short arm 21 are con-

structed independent of each other and are hinged together, as shown at 22. The short arm 21 is provided on its inner end with a toe or lip 23, which latter is moved to engage and lock the clamp to the framework of a sewing-machine table through the medium of thumb-screw 24, which connects the outer ends of said long and short arms. The remaining portion of long arm 20 is constructed as heretofore described. This form of clamp is specially adapted for use on tables having fancy corner-brackets.

When it is desired to attach my improvement to a sewing-machine and operate it by friction, bracket A is secured to the machine-table at a point in front of the wheel carried by the machine-head. Standard 9 is then adjusted so as to bring friction-wheel 12 in contact with the wheel carried by the machine-head, above referred to, after which rest 15 is moved to the position shown in Fig. 1 of the drawings. In this position said rest is ready to receive and support the instrument to be ground. After the insertion of a blade of scissors or other instrument between walls or sides 18 18 power is applied to the treadle of the sewing-machine, which imparts motion to the wheel carried by the machine-head, which in turn imparts motion to shaft 11 through the medium of friction-wheel 12, and as the emery-wheel and said friction-wheel are both mounted on said shaft 11 it will be apparent that motion will also be transmitted to said emery-wheel.

Instead of operating my improvement by frictional contact with the wheel carried by the machine-head it may be, if desired, operated by the machine-belt by simply removing the rubber tire carried by friction-wheel 12 and securing parts in position with the grooved wheel in contact with the belt, so as to be turned by frictional contact therewith.

From the foregoing it will be seen that my improvement is very simple, easy of operation, and can be quickly attached to and removed from a machine. It will also be seen that it is well adapted for grinding any class of edge-tools.

It is evident that changes in the construction and relative arrangement of the several parts might be made without avoiding my invention, and hence I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described; but,

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

1. A grinding-machine consisting of a bracket, a standard adjustably secured thereto, a rotary grinding-wheel carried by said standard, and a rest approximately U-shaped in cross-section adapted to receive and support a blade, substantially as set forth.

2. A grinding-machine consisting of a bracket, a standard adjustably secured thereto, a rotary grinding-wheel carried by said standard and an approximately U-shaped rest adapted to receive and support a blade, the said rest being arranged at an angle to the grinding-surface of wheel whereby the edge of the blade is ground with a bevel, substantially as set forth.

3. A grinding-machine, a bracket provided at one end with a clamping-screw and with oppositely-located side grooves at its other end, a bifurcated standard adapted to embrace and travel in the grooved portion of said bracket, a screw for locking said standard on the bracket, a shaft carried by the standard, a grinding-wheel and a friction-wheel secured to said shaft and a rest removably and adjustably secured to said standard, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

J. M. CRUMM, JR.

Witnesses:
J. W. CARLL,
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