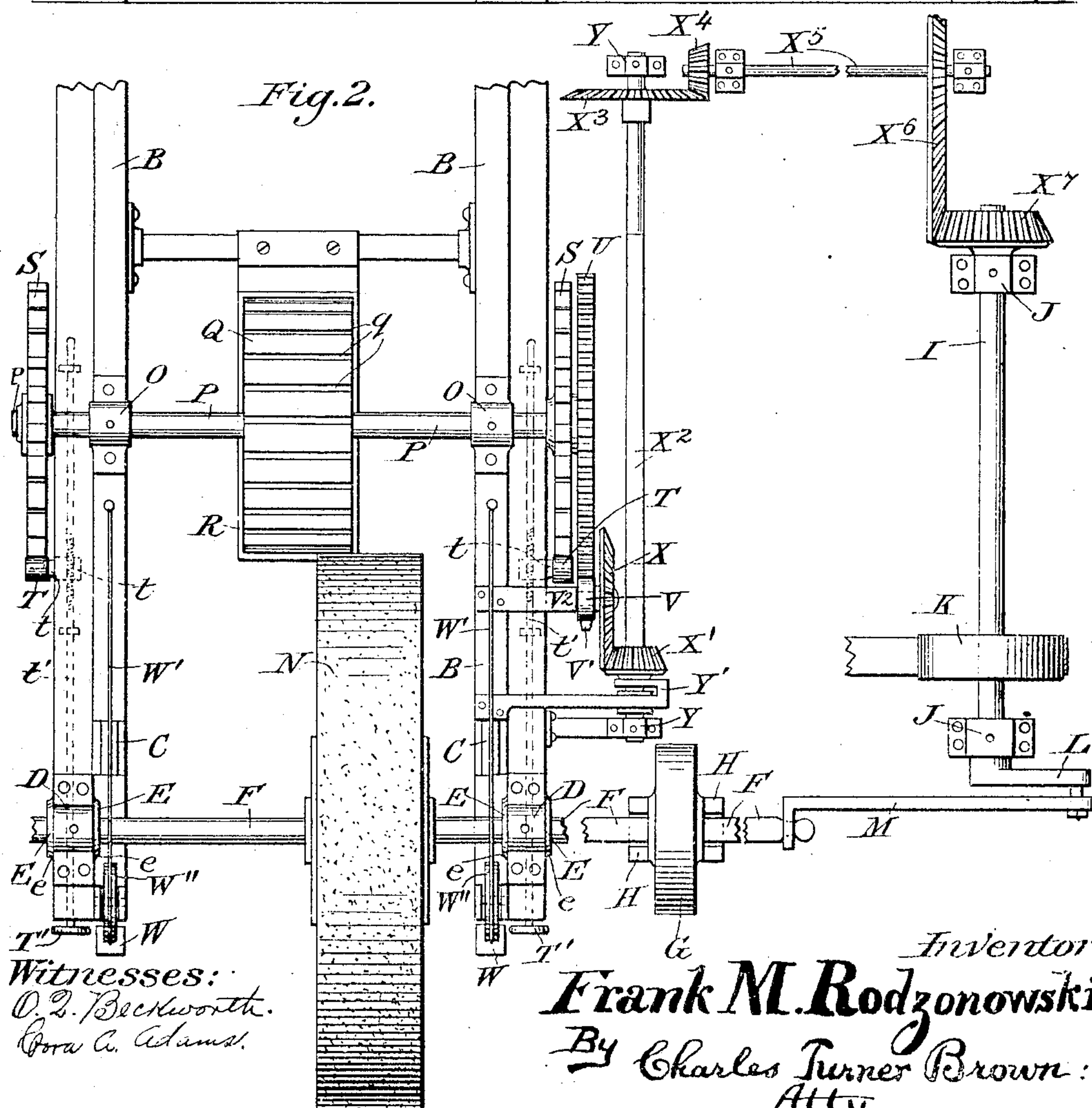
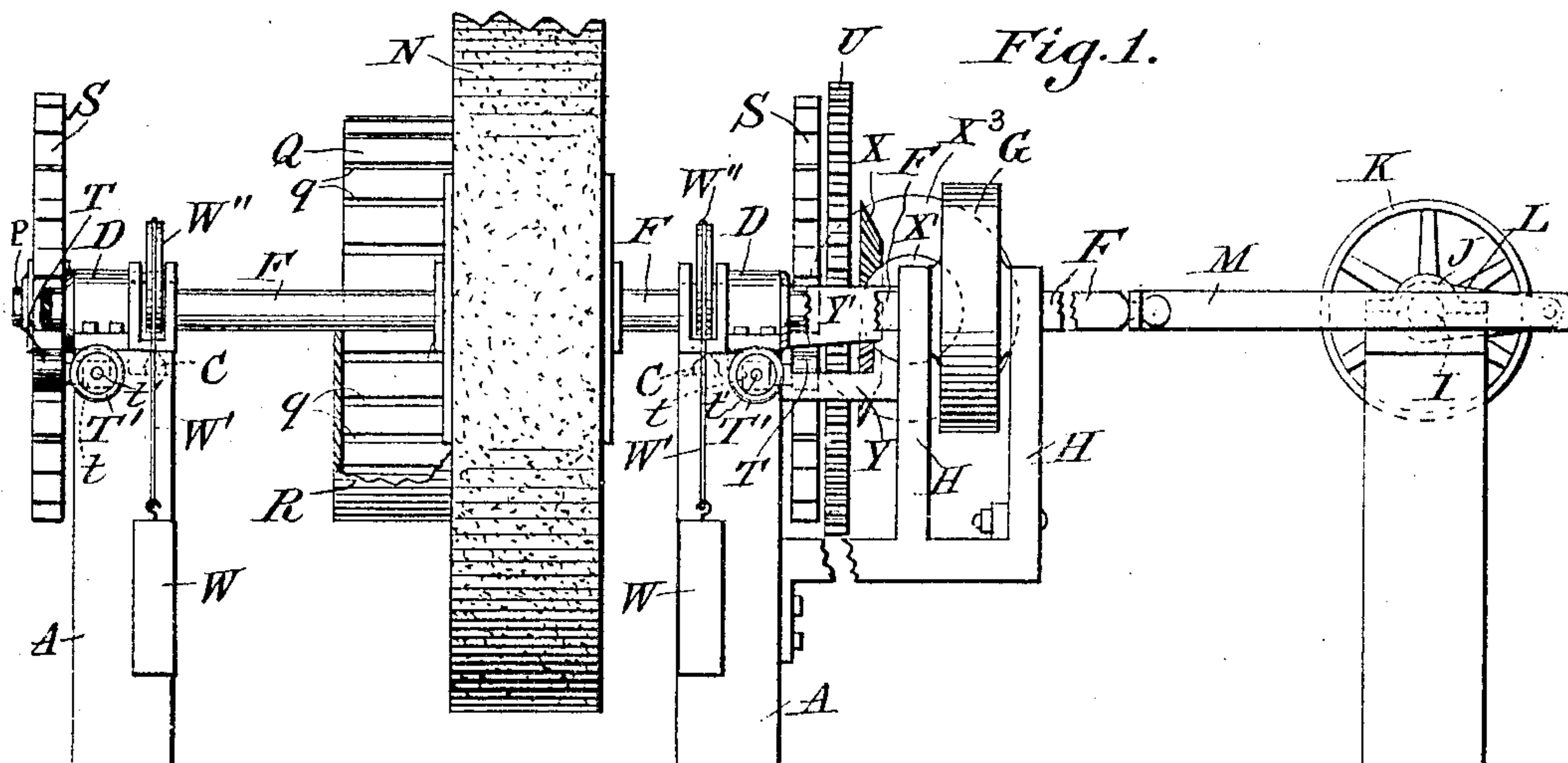


No. 871,889.

PATENTED NOV. 26, 1907.

F. M. RODZONOWSKI.  
AUTOMATIC SHARPENING AND POLISHING MACHINE.  
APPLICATION FILED JUNE 9, 1906.



Witnesses:  
O. P. Beckworth.  
Corra A. Adams.

Inventor:  
**Frank M. Rodzonowski:**  
By Charles Turner Brown:  
Atty.



# UNITED STATES PATENT OFFICE.

FRANK M. RODZONOWSKI, OF CHICAGO, ILLINOIS.

AUTOMATIC SHARPENING AND POLISHING MACHINE.

No. 871,889.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed June 9, 1906, Serial No. 320,963.

*To all whom it may concern:*

Be it known that I, FRANK M. RODZONOWSKI, a subject of the Czar of Russia, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Sharpening and Polishing Machines, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete description, sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to machines used for grinding the knives of mowing machines and other like agricultural implements, and for polishing them.

The object of this invention is to obtain a machine whereby knives of the character named can be rapidly and uniformly ground by persons not particularly skilled in the art; and whereby knives and other articles can be polished.

A further object of the invention is to obtain a machine of the character named which will be economical in construction, not liable to get out of order, and readily arranged to grind knives not attached to a blade.

In the drawings referred to Figure 1 is a front elevation of a machine embodying this invention showing the grinding or polishing wheel broken. Fig. 2 is a top plan view of a machine embodying the invention, showing the grinding or polishing wheel and the tracks of the machine broken.

A reference letter applied to designate a given part is used to indicate such part throughout the several figures of the drawings, wherever the same appears.

A is the frame of the machine, provided with tracks C, C, and B is a frame movable on said tracks.

D, D, are journal bearings on frame A.

E, E, are bushings in journal bearings D, D. Bushings E, E, respectively are arranged, so as not to move longitudinally in bearings D, D, as by shoulders e, e, (Fig. 2).

F is a shaft rotatably mounted in bushings E, E, and adapted to be moved longitudinally therein.

G is a driving wheel on shaft F. Shaft F must be square in the portion thereof on which the driving wheel G is mounted, such shaft being longitudinally movable on the hub of the driving wheel G while rotated thereby. I have shown such shaft in Figs. 1

and 2 as round to the left of the break thereof adjacent to the right hand bearing D, and as square to the right of such bearing.

H is a fork attached to frame A to prevent lateral movement of driving wheel G.

I is a shaft rotatably mounted in journal bearings J, J, and K is a driving wheel on shaft I.

L is a crank on shaft I and M is a connection between crank L and shaft F.

N is a grinding or polishing wheel rigidly attached to shaft F. Rotation of shaft I produces longitudinal movement of shaft F and lateral movement of grinding wheel N.

O, O are journal bearings on movable frame B, and P is a carriage shaft rotatably mounted in bearings O, O.

Q is a rotatable carriage rigidly mounted on shaft P.

q, q are slits in carrier Q in which slits knives or other articles may be inserted to be ground on wheel N.

R is an apron under rotatable carriage Q to prevent articles in slits q, q, falling therefrom as such carriage rotates.

S, S, are toothed wheels rigidly attached to shaft P.

T, T, are rollers, respectively engaging with the teeth of wheels S, S.

t, t, are adjustable abutments on screw threaded rods t', t', on frame A, and carry rollers T T.

T', T' are hand wheels on rods t', t', respectively, by means of which the abutments t, t, may be moved along the frame A.

W, W, are weights connected to movable frame B by cords W', W', respectively. Cords W', W', run over pulleys W'', W'' on frame A, tending to draw frame B towards the wheel N, thus bringing the teeth of wheels S, S, against rollers T, T, respectively.

Rollers T, T, abutments t, t, screw threaded rods t', t' and hand wheels T', T', form an adjustable abutment against which wheels S, S, are yieldingly held by weights W, W. When wheels S, S, are turned (together with shaft P), the teeth thereof being held against the adjustable abutments by the weights W, W, such wheels S, S, are forced backwards as the point of a tooth approaches the abutment, carrying therewith the shaft P, carriage Q and frame B, and as the point of a tooth on each of such wheels S, S, passes over the adjustable abutments the weights W, W, draw the frame B forward with such teeth in contact with such adjustable abut-



ment. By this means as the carriage Q is about to be turned into position for a knife or a plurality of knives which have been placed in a given slit *g* to be sharpened, the carriage is made to recede from the wheel N so that such knife or knives are not in contact therewith when such carriage is turning, and as the carriage stops turning it is yieldingly held to the wheel N. By means of the hand wheels T', T', the rollers T, T, are adjusted so as to hold carriage Q the proper distance from wheel N to sharpen the articles held in or on such carriage Q.

To automatically turn the carriage Q into place I secure wheel U rigidly on shaft P, rotatably mount the wheel V provided with a tooth V' on frame B by means of arm V<sup>2</sup>, and provide means to rotate wheel V at a suitable rate of speed. The means which I employ to turn the one-toothed wheel V consist of the beveled gear wheel X secured to the one-toothed wheel to engage with beveled wheel X' on square shaft X<sup>2</sup>, the beveled wheel X<sup>3</sup> on shaft X<sup>2</sup>, engaging with beveled wheel X<sup>4</sup>, on shaft X<sup>5</sup> beveled gear wheel X<sup>6</sup> also on shaft X<sup>5</sup> and beveled wheel X<sup>7</sup> on shaft I engaging with wheel X<sup>6</sup>. The shaft X<sup>2</sup> is cylindrical at its ends and is mounted in journal bearings Y, Y.

Y' is an arm on movable frame B holding beveled gear X' in engagement with beveled gear X, as the frame B moves on tracks C, C. The beveled gear X' is arranged to travel longitudinally on shaft X<sup>2</sup>, and to revolve therewith, and to obtain this result I prefer to make the shaft square except in the portions thereof in bearings Y, Y.

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

1. The combination of a frame, an abutment on the frame, a wheel to grind or polish rotatably mounted on the frame, a movable frame, a carriage consisting of a

drum provided with slots to receive articles to be ground or polished, such carriage rotatably mounted on the movable frame, a toothed wheel on the shaft of the carriage to turn therewith and arranged to engage with the abutment, means to yieldingly hold the carriage in an advanced position, means to rotate the first named wheel and to move it laterally and means to intermittently rotate the carriage; substantially as described.

2. The combination of a frame, an adjustable abutment on the frame, a wheel, to grind or polish, rotatably mounted on the frame, a movable frame, a locking and turning wheel with gear teeth on a portion of the periphery thereof on the movable frame, a carriage consisting of a drum arranged to receive articles to be ground or polished, such carriage rotatably mounted on the movable frame, toothed wheels on the shaft of the carriage to turn therewith, one of such toothed wheels arranged to engage with the abutment and the remaining toothed wheel engaging with the locking and turning wheel, means to yieldingly hold the carriage in an advanced position means to rotate the first named wheel and to move it laterally and means to continuously turn the locking and turning wheel; substantially as described.

3. The combination of a frame, an additional frame movable on the first named frame, a rotatable carriage mounted on the movable frame, a toothed wheel on the shaft of the carriage arranged, to turn with the carriage, and an abutment on the rigid frame to engage with the teeth of the wheel, means to intermittently rotate the carriage and means to yieldingly hold the carriage with the teeth of the wheel in engagement with the abutment; substantially as described.

FRANK M. RODZONOWSKI.

In the presence of—

CORA A. ADAMS,

CHARLES TURNER BROWN.