(No Model.)

C. S. YARNELL.

RUBBING MACHINE.

No. 507,251. Patented Oct. 24, 1893.

Fig. 1.

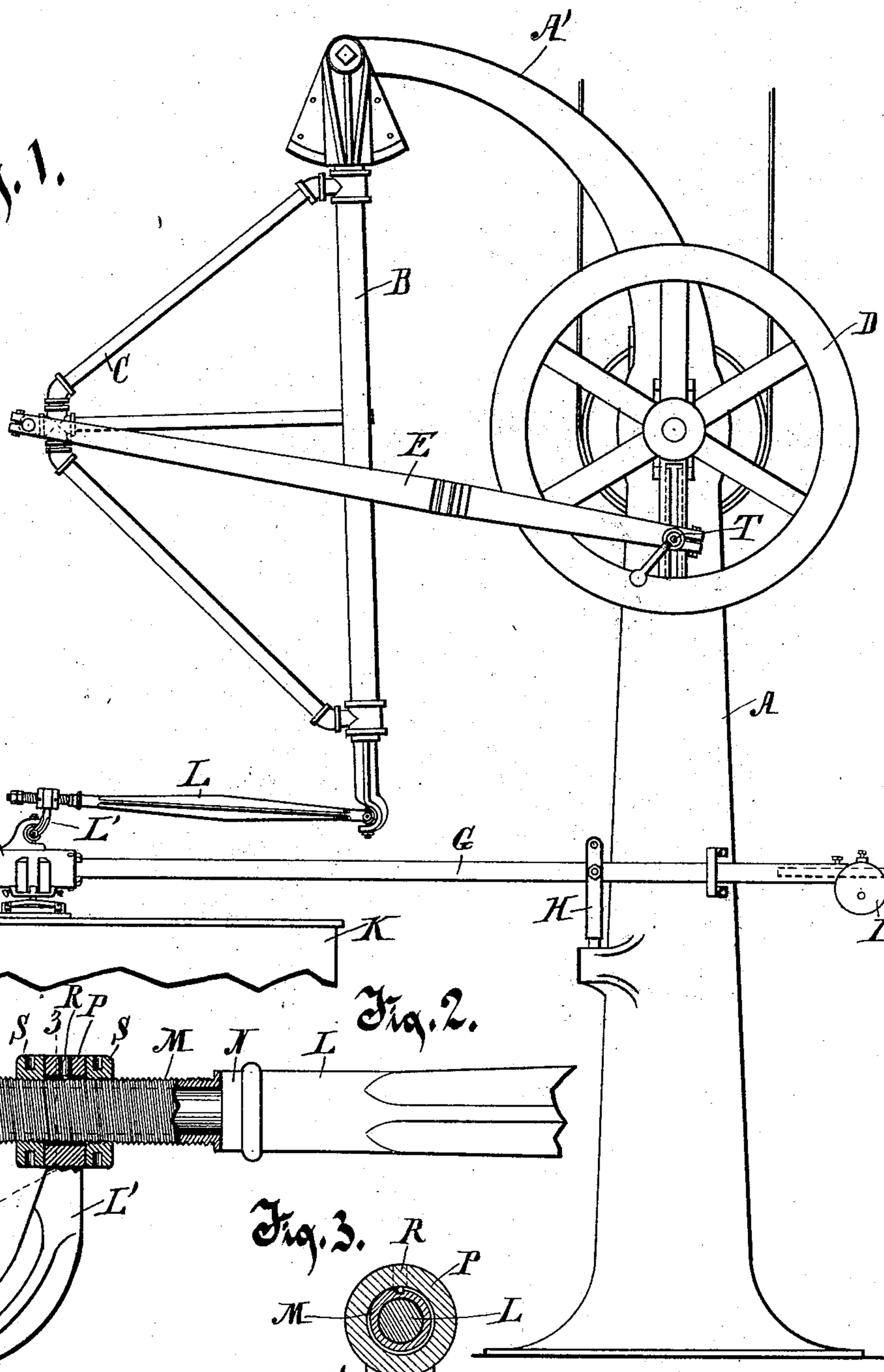
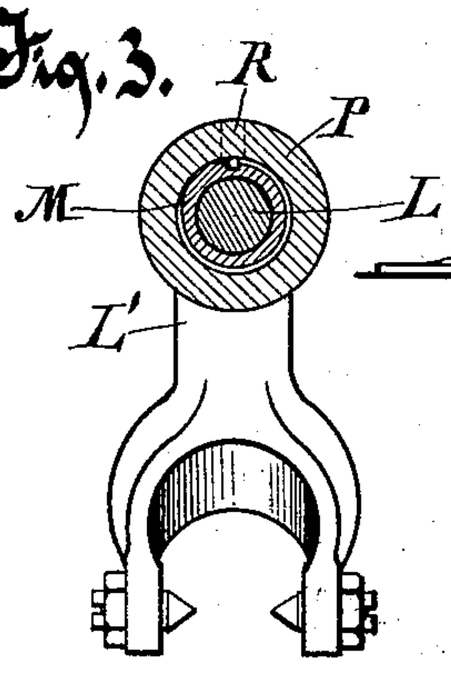


Fig. 2.

Fig. 3.



Witnesses.
C. A. Kinney.
Anna C. Faust.

Inventor.
Charles S. Yarnell
By Benedict & Russell
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES S. YARNELL, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE MOORE CARVING MACHINE COMPANY, OF SAME PLACE.

RUBBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,251, dated October 24, 1893.

Application filed July 15, 1893. Serial No. 480,589. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. YARNELL, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Rubbing-Machines, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in a rubbing machine adapted for sand papering or polishing the surfaces of articles manufactured of wood or other material capable of taking a polish.

The machine to which my invention relates, includes a vibrating arm having a medially projecting truss, which arm is pivoted and thereby suspended at one extremity, is vibrated by a pitman pivoted to the arm medially and to the adjustable crank of a revolving shaft, and at its free end is connected by a suitable rod to a reciprocating polisher-carriage.

My invention relates to the construction of the connecting rod by and through which the free end of the vibrating arm is connected to the reciprocating polisher-carriage.

The object of the invention is to provide means for adjusting the relative distance between the free extremity of the vibrating arm and the carriage, while at the same time preserving the freedom of movement that is requisite in the device.

In the drawings, Figure 1, is an elevation of a complete rubbing machine in which my improvements are embodied, in connection with a fragment of a dresser or similar article being polished. Fig. 2, is a movement of the connecting rod showing my improvements therein, parts being in section and other parts being broken away showing interior construction. Fig. 3, is a transverse section on line 3—3 of Fig. 2.

A is the standard on which the operative parts of the mechanism are mounted. The upper extremity of the standard is curved over forming an overhanging and deflected member A′. A vibrating arm B is pivoted at one extremity to the overhanging end of the standard, and depends therefrom. The arm B is provided with a laterally projecting truss C which projects therefrom on the side opposite to the standard A. The arm is connected medially to the wrist of the fly wheel D by a pitman E. The pitman is connected to the arm B by being pivoted directly to the truss C at its medial and most distant point from the arm B.

The buffer or polisher-carriage F is mounted and reciprocates freely on the guide bar G, which is pivoted to swing vertically limitedly in a yoke H swiveled on a bracket therefor on the standard A. The carriage F is counterpoised by weights I. A fragment of a dresser K is shown to illustrate the relations of the carriage, and other mechanism, to the article being polished.

The free extremity of the vibrating arm B is connected to the somewhat distant reciprocating carriage F by a connecting rod formed in two parts L L′. The part L is connected at one extremity to the lower extremity of the vibrating arm B by a universal joint, and the lower furcate extremities of the part L′ are connected to the carriage F by a universal joint also. The outer contracted extremity of the part L is provided with a sleeve M, revoluble freely on this contracted portion of the arm which is held in place against longitudinal movement on the arm L by bearing at one extremity against the shoulder N and at the other extremity by the nuts O turning on the screw threaded terminus of the arm. The upper extremity of the member L′ is provided with a ring or eye P which fits loosely about the exteriorly screw-threaded sleeve M, and is provided with a pin R projecting interiorly into a longitudinal groove in the sleeve. This construction permits the member L′ to be adjusted on the sleeve M longitudinally while compelling the concurrent oscillatory or revoluble movements of the member L′ and the sleeve M. Set nuts S S turning on the sleeve M, one on each side of the eye P, are adapted to permit of the adjustment of the member L′ on the sleeve M longitudinally, and for holding or locking the member L′ rigidly to the sleeve M. It will be understood that by this construction, the distance between the carriage and the free extremity of the arm B can be lengthened or shortened limitedly, while preserving the freedom of movement of the parts

on and relative to each other, as herein described. The specific advantage and object of this improved device, in connection with the rubbing machine shown in the drawings, is, to provide for centering the movement of the polisher-carriage, by adjusting its distance from the vibrating arm, to correspond with greater or less movements or strokes of the carriage, obtained by adjusting the wrist pin T farther from or nearer to its axis of revolution. By means of these adjustments, an article, like a folding bed case, which has a number of panels or stiles and panels of different lengths, may be entirely and successfully polished by this machine, when once it is secured in place on the material-holding table, without unclamping it, it being only necessary to adjust the stroke for the different lengths of panels or stiles and panels, by moving the wrist pin T, and correspondingly centering the carriage by adjustment of the length of the connecting rod L L′ by my improved device.

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

1. In a rubbing machine, having a reciprocating polisher-carriage and a vibrating arm to which the carriage is connected operatively, the combination therewith, of a connecting rod consisting of two members swiveled to each other, and a sleeve screw threaded and grooved longitudinally exteriorly, revolubly loose on one member of the rod, and an eye on the other member of the rod loosely encompassing the sleeve, said eye being provided with a pin entering said groove and serving as a feather to compel concurrent revoluble movement of the sleeve and eye-encompassing part, whereby the rod is adjustable longitudinally, substantially as described.

2. In a rubbing machine having a reciprocating carriage, a means for connecting the carriage to a vibrating arm, consisting of a connecting rod in two parts, an exteriorly screw threaded sleeve revoluble on one part, an eye on the other part loosely encompassing the sleeve, said eye being provided with a feather that enters a longitudinal groove in the sleeve, and set nuts turning on the sleeve against the eye, one on each side, substantially as described.

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

CHARLES S. YARNELL.

Witnesses:

L. A. CONDIT,

CHARLES G. VAN WERT.