No. 772,222. PATENTED OCT. 11, 1904.

H. A. DAMEROW.

POLISHING MACHINE.

APPLICATION FILED JUNE 1, 1904.

NO MODEL.

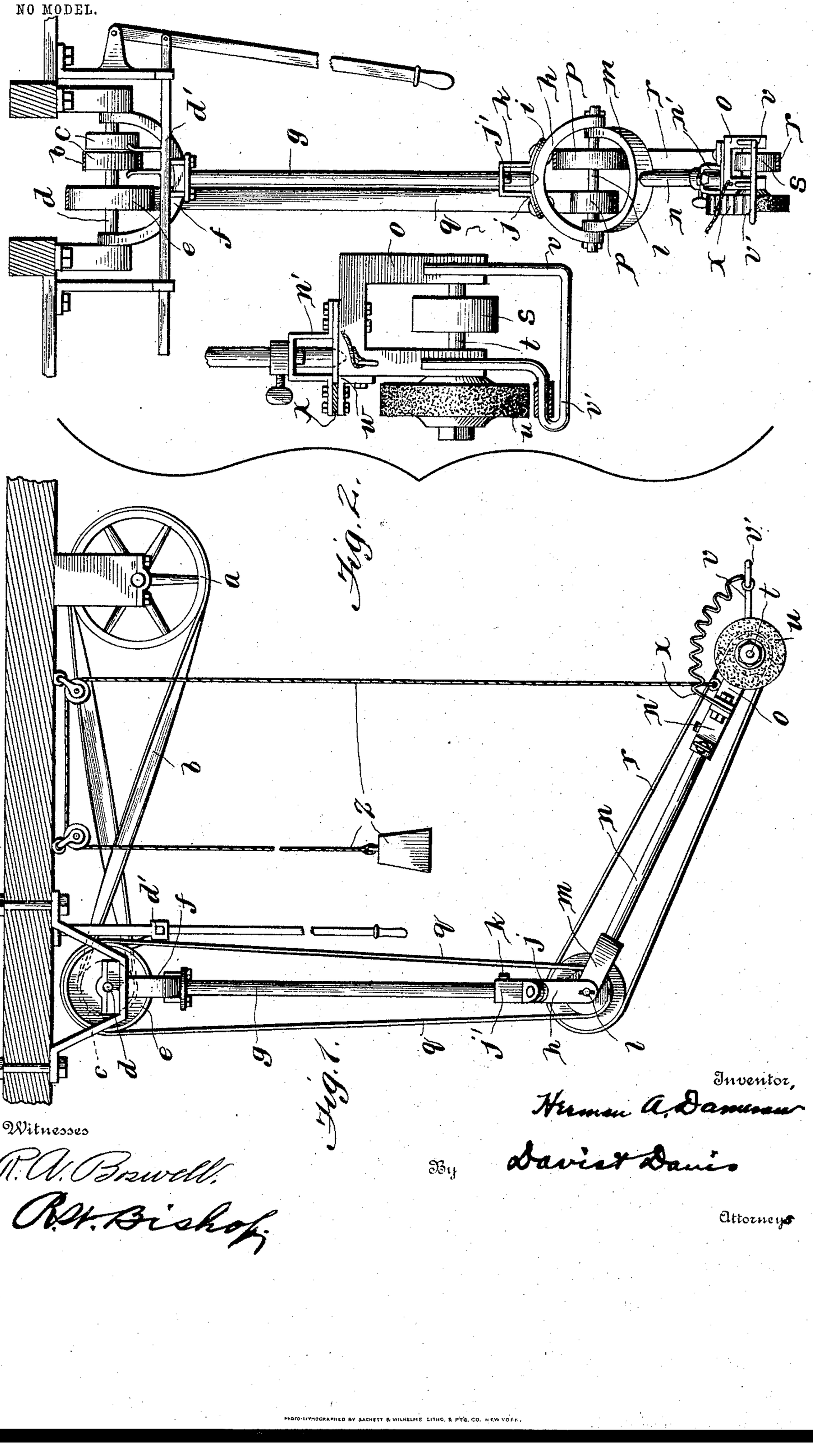

Fig. 2.

Witnesses

P. A. Boswell.

R. H. Bischof.

Inventor,

Herman A. Damerow

By Davies & Davies

Attorneys

No. 772,222. Patented October 11, 1904.

UNITED STATES PATENT OFFICE.

HERMAN A. DAMEROW, OF SCHALLER, IOWA.

POLISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,222, dated October 11, 1904.

Application filed June 1, 1904. Serial No. 210,669. (No model.)

To all whom it may concern:

Be it known that I, HERMAN A. DAMEROW, a citizen of the United States of America, and a resident of Schaller, county of Sac, State of Iowa, have invented certain new and useful Improvements in Polishing-Machines, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figures 1 and 2 represent, respectively, a side and a front elevation of my improved apparatus.

The object of this invention is to provide an extremely simple and inexpensive apparatus for polishing implements, especially plows and other odd-shaped agricultural devices in the polishing of which it is of importance for the sake of convenience as well as efficiency to provide means whereby the polishing-wheel shall be driven at a high rate of speed and be capable of a practically universal adjustment with respect to the article undergoing the polishing operation, as more fully hereinafter set forth.

The invention consists of certain novel features of construction and combination of parts hereinafter described, and particularly pointed out in the claim appended.

Referring to the drawings by reference-letters, *a* designates a suitable driving-pulley connected by a belt *b* to a pair of smaller pulleys *c*, one of which is tight and the other loose on shaft *d*, a belt-shifter *d'* being suitably arranged to enable the belt to be shifted from one pulley to the other. These devices are attached to the ceiling of the shop by suitable shaft-hangers.

On shaft *d* alongside pulleys *c* is another larger pulley *e*, and pivotally depending from the shaft is a yoke *f*, which spans said pulleys *e* and *c*. Rigidly depending from the center of the bow or yoke is a rod *g*, and swivelly connected to the lower end of this rod is another bow or yoke *h*. This bow is connected at the center of its upper convex side to the extreme lower end of the rod by a pair of straps *i* and *j*, bolted at their overlapped ends to the convex side of the upper surface, the under strap conforming to the curvature of bow and the other one having a bent-up U-shaped part *j'*, through which the rod passes. The end of the rod is stepped in a hole in the under strap, and a pin *k* is inserted in the rod under the U-shaped bend to retain the rod. In this manner the yoke is made free to turn horizontally and at the same time is properly braced with respect to the rod.

Journaled in the ends of the yoke *h* is a shaft *l*, and pivotally connected to this shaft are the ends of another yoke *m*, similar in shape to yokes *h* and *f* and having rigidly attached to the center of its convex side a rod *n*, to the extreme end of which is swivelly attached (by a connection *n'*, similar to that between rod *g* and yoke *h*) another yoke or fork *o*. On shaft *l*, within the yokes *n* and *m*, are rigidly mounted a pair of pulleys *p p*, the smaller one of which is connected by belt *q* with pulley *e* and the larger one of which is connected by belt *r* to a small pulley *s*, secured on a transverse shaft *t*, journaled in the ends of a fork *o*. The pulley *s* is fixed to the shaft *t* at a point between the arms of the fork, and a grinding and polishing wheel *u* is attached to the left end of the shaft, which is extended beyond the left arm of the fork to receive it. The rod *n* is attached to fork *o* to one side of the center of the yoke, so that the axis of the swivel connection shall pass between the pulley and the grinding-wheel, whereby not only shall said pulley *s* be brought into line with its driving-pulley *p*, but also that the polishing-wheel shall be rendered capable of a partial planetary movement about the axis of the swivel without throwing off the belt. Thus mounting the polishing-wheel outside of the fork and rendering it capable of being turned bodily around through a half-circle (the axis of which is the swivel connection *n'*) while running at a high speed is very advantageous in that it enables the operator to readily work the wheel into odd-shaped recesses and out-of-the-way corners, as is obvious, and to further facilitate this insertion of the wheel into recesses which otherwise would be out of the question I employ a peculiarly constructed and arranged bail-handle *v*. The ends of the bail are attached to the respective arms of the fork, and the handle portion of the bail extends forwardly and upwardly to a point beyond the

periphery of the polishing-wheel and is extended laterally to form a loop v', lying just in front of the polishing-wheel. With a handle of this construction it is evident that the operator may quickly and nicely manipulate the polishing-wheel, twisting and turning it freely about as the exigencies of the work demands.

One end of the swivel connection n' is attached to the fork through the medium of suitable bolts and a bracket-plate w, which, in effect, is a part of the fork, and attached to this bracket-plate is one end of a spring-band x, whose forward end is attached to the lateral loop v' of the handle, the spring curving up over the polishing-wheel, and thereby serving as a sand-guard therefor. This spring is transversely corrugated to enable it to yield slightly torsionally.

To counterbalance the horizontally-swinging arm and enable it to be manipulated readily and also to draw it up to the ceiling of the shop when not in use, I attach a suitable cord and weight z to it, the cord being preferably connected to the fork o.

It will be observed that the polishing-wheel by reason of mounting it on a pivotally-depending jointed hanger with a swivel in each member will have a wide range of adjustment vertically and laterally.

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

In a machine of the class described, the combination of a pivotally-depending jointed hanger, a fork swivelly connected to the free end thereof and carrying a shaft in its ends, a pulley on this shaft within the fork, a grinding-wheel on the shaft outside of the fork, a bail-like handle attached to the fork and extending forward beyond the periphery of the grinding-wheel and having a lateral offset loop lying in front of said wheel, a sand-guard connected to the offset loop of the handle and curving backwardly over the grinding-wheel and attached at its rear end to the fork, and suitable driving-belts.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 19th day of May, 1904.

H. A. DAMEROW.

Witnesses:

J. T. EDSON,

SAML. S. ADLINE.