

No. 687,523.

Patented Nov. 26, 1901.

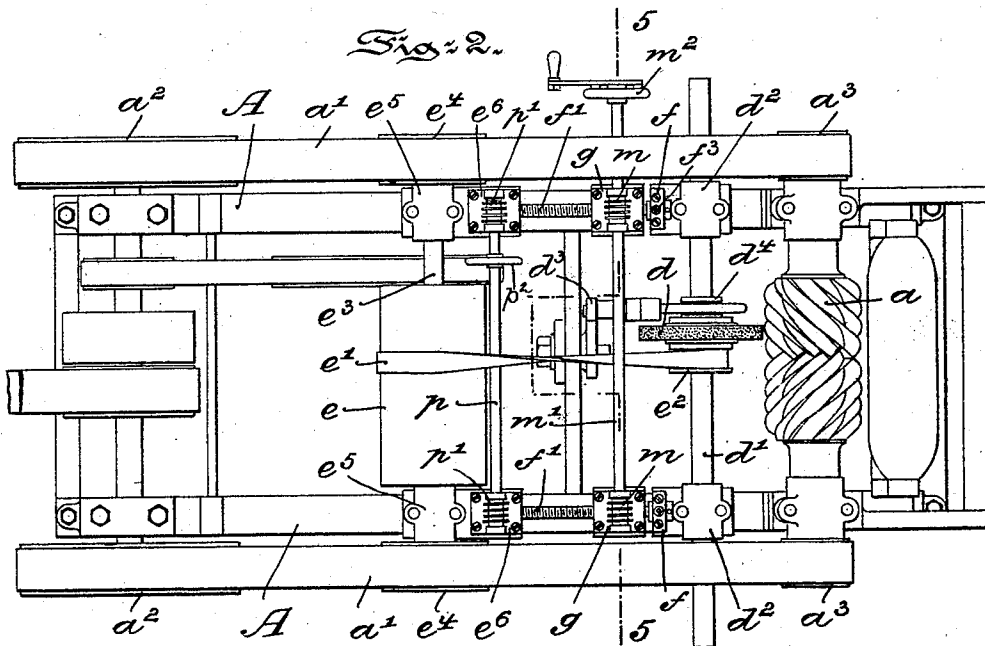
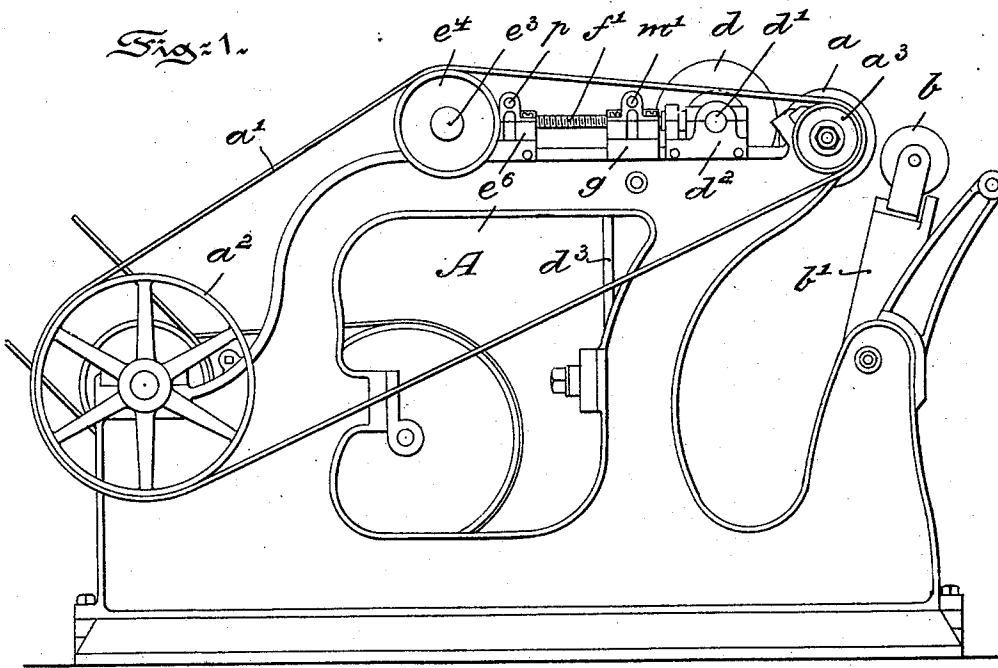
W. EVANS.

MACHINE FOR SHAVING LEATHER.

(Application filed Sept. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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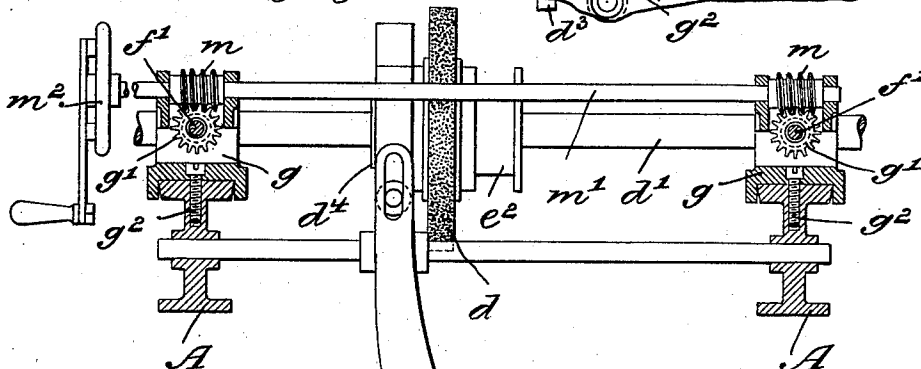
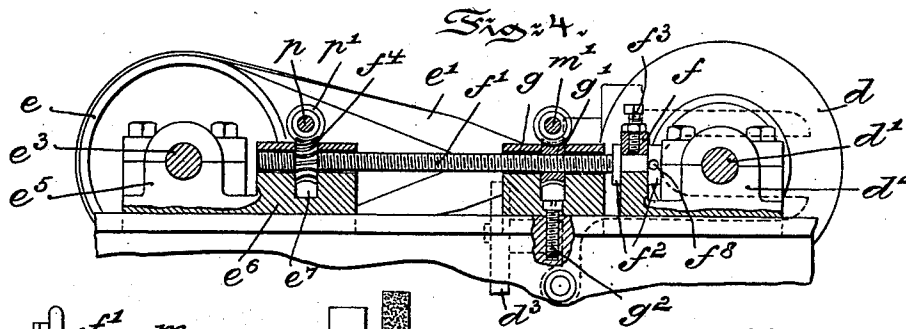
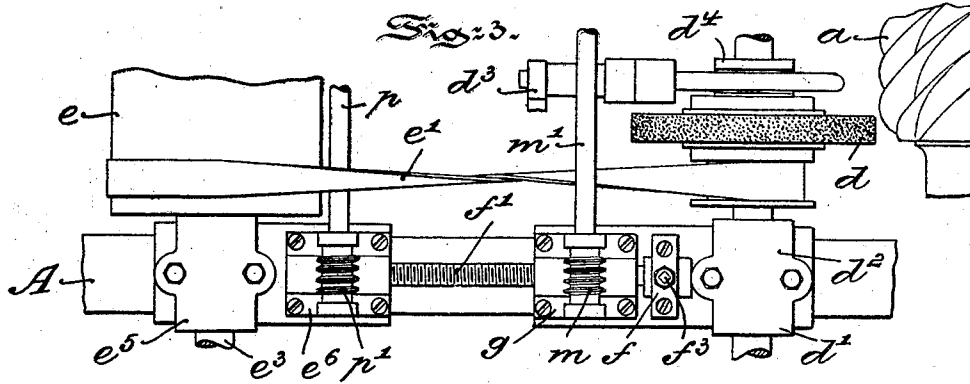


Fig. 5

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UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN H. EVANS, ROBERT EVANS, AND WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA, TRADING AS JOHN EVANS' SONS.

MACHINE FOR SHAVING LEATHER.

SPECIFICATION forming part of Letters Patent No. 687,523, dated November 26, 1901.

Application filed September 4, 1901. Serial No. 74,336. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Shaving Leather, of which the following is a specification.

My invention has relation to a machine for shaving or cutting down leather, and in such connection it relates to the mechanism for grinding the blades of the cutter-cylinder of the machine and to the means for regulating and adjusting the grinding mechanism.

In machines of the character to which my present invention appertains a rapidly-rotating cutter-cylinder, a presser-roller upon which the work is supported and by means of which the work is presented to the cutter-cylinder, and a revolving grinding-wheel are essential elements. The grinding wheel or disk usually has two movements irrespective of its revolving movement—namely, one toward or away from the revolving blades of the cutter-cylinder and a reciprocatory movement back and forth longitudinally of the cylinder or parallel to the axis of said cylinder. As the grinding-wheel grinds off the surface of the blades it is itself worn down toward its hub, and in its reciprocatory movement the axis or shaft of the grinding-wheel is liable to lose its parallelism with respect to the axis of the cutter-cylinder or to the axis of the roller or pulley from which the grinding-wheel receives its rotary motion.

The principal object of my present invention is to provide, in a shaving-machine, an improved mechanism for feeding the grinding-wheel toward or away from the blades of the cutter-cylinder, said mechanism being so arranged that slackening of the belt connecting the shaft of the grinding-wheel with the power pulley or shaft may be readily taken up and being also so arranged that the parallelism of the axis or shaft of the grinding-wheel with either the axis or shaft of the cutter-cylinder or the axis or shaft of the power-pulley may be easily and quickly maintained.

The nature and scope of my invention will be more fully understood from the following

description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevational view of a shaving-machine embodying main features of my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is an enlarged top or plan view illustrating a portion of the top of the machine shown in Fig. 2. Fig. 4 is a longitudinal sectional view of Fig. 3, the section being taken through the bearing for one of the threaded adjusting-shafts; and Fig. 5 is a sectional view, enlarged, on the line 5 5 of Fig. 2.

Referring to the drawings, *a* represents the cutter-cylinder, *b* the presser-roller, and *d* the grinding-wheel or disk. The cutter-cylinder *a* is driven by means of belt *a'*, connecting the power-pulley *a²* with a pulley *a³* on the axis or shaft of the cutter-cylinder *a*. The presser-roller *b* is raised and lowered by a treadle mechanism *b'* of the usual construction. The shaft *d'* of the grinding wheel or disk *d* has a reciprocatory movement sliding transversely in the machine in bearings *d²*, supported by the frame *A* of the machine. This sliding of shaft *d'* is accomplished by a forked lever-arm *d³* engaging a collar *d⁴* on shaft *d'*. The necessary reciprocatory movement of the lever-arm *d³* is secured in the usual manner—for instance, as illustrated in Letters Patent No. 526,387, granted to me under date of September 25, 1894.

The rotary movement to shaft *d'* of the grinding-wheel *d* is imparted from a roller or pulley *e* through a crossed belt *e'*, which passes around a pulley *e²* on shaft *d'*. The axis or shaft *e³* of the roller or broad pulley *e* at both ends is provided with pulleys *e⁴*, driven by the main or power belts *a'*, as clearly illustrated in Figs. 1 and 2. The shaft *d'* has on either side of the machine a bearing *d²*, and each bearing *d²* is adapted to slide longitudinally upon the frame *A*, which supports it. In the same manner the shaft *e³* of the roller *e* has two bearings *e⁵*, each of which are adapted to slide longitudinally upon the frame *A*, supporting the bearing. The bearings *d²* are each provided with a projection *f*, in which one end of a longitudinally-arranged screw-

threaded rod or shaft f' enters. The rod or shaft f' incloses or is locked to the projection f by means of two collars f^2 , and to prevent the shaft f' from turning in the projection f a set-screw f^3 is passed through the projection f and engages the shaft or rod f' between the collars f^2 , as illustrated in Figs. 3 and 4. The threaded rod f' also enters a block e^6 of the bearing e^5 , to which it is locked against withdrawal by means of a worm-wheel f^4 , set in a vertical recess e^7 of said block e^6 . Intermediate of the block e^6 and projection f is arranged a fixed bearing-block g , through which the rod f' passes. This block g is recessed to receive a worm-gear g' , surrounding the threaded rod f' . One way of securing the bearing-block g to the frame A of the machine is illustrated in Figs. 4 and 5 of the drawings, and it consists in screwing the block g down upon the frame A by means of a screw or screws g^2 , inserted in the recess of the block g and entering the frame A. On each side of the machine there will thus be found a bearing d^2 and a bearing e^5 , both slidable on the frame of the machine and connected by a threaded rod f' , upon which are arranged two worm-wheels f^4 and g' . The gear or wheel g' when actuated advances the rod f' either toward or away from the front or cylinder end of the machine, according to the direction in which the worm-gear g' is moved. The worm gear or wheel f^4 when actuated serves to advance or retract the block e^6 along the rod f' , and thereby slides the bearing e^5 toward or away from the bearing d^2 . The worm-gear g' , however, shifts the rod f' in the block g , and thereby advances or retracts both bearings simultaneously in the same direction. The worm-gears g' of both threaded rods f' are engaged by worm-gears m , located upon a common shaft m' , and this shaft m' is provided with a handle or hand-wheel m^2 . When the handle m^2 is operated, both threaded shafts or rods f' are operated simultaneously. In a similar manner a shaft p , with worm-gears p' , and a handle or hand-wheel p^2 serve to operate both worm-gears f^4 simultaneously. The movement of the two rods f' , caused by the operation of the worm-gears g' through shaft m' and handle m^2 , serves to bring the grinding-wheel d toward or away from the blades of the cutter-cylinder a . The movement of the bearing-blocks e^5 upon the rods f' serves to either separate the roller e and its shaft e^3 from the shaft d' of the grinding-wheel d to increase the tension of the belt e' or else to bring the roller and shaft d' closer together to slightly relax the tension upon said belt. It frequently happens that the shaft d' of the grinding-wheel d loses its parallelism with

respect to the axis of the cutter-cylinder a or the shaft e^3 of the roller e . When this occurs, the parallelism may be readily restored by advancing or retracting one of the rods f' independently of the other. To accomplish this, one of the set-screws f^3 is first loosened, and then one of the collars f^2 is turned by means of a key inserted in an opening f^8 in the periphery of said collar f^2 .

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

1. In a shaving-machine, a grinding wheel or disk, a shaft to which the wheel or disk is secured, a slidable bearing for either end of said shaft, a broad pulley, a shaft to which the pulley is secured, a belt connecting the pulley with the grinding-wheel shaft, a slidable bearing for each end of the pulley-shaft, a threaded rod connecting the two slidable bearings on either side of the machine, a fixed bearing-block arranged intermediate of the slidable bearings and traversed by the threaded rod, and means for advancing or retracting the threaded rod in the fixed bearing-block to move the slidable bearings simultaneously in the same direction.

2. In a machine of the character described, a grinding-wheel and its shaft, a broad pulley and its shaft, a belt connecting the two shafts, slidable bearings for each shaft, a threaded rod secured at one end to the slidable bearing for the grinding-wheel shaft and entering the slidable bearing for the pulley-shaft, a worm-gear locking the threaded rod to said pulley-shaft bearing and adapted to advance or retract the bearing for the pulley-shaft on the threaded rod, a fixed bearing-block located intermediate of the slidable bearings on each side of the machine and a worm-gear adapted to advance or retract the threaded rod in the fixed bearing to move the slidable bearings simultaneously in the same direction.

3. In a machine of the character described, a grinding-wheel and its shaft, a broad pulley and its shaft, a belt connecting the two shafts, slidable bearings for each shaft arranged on either side of the machine, means for advancing or retracting all the slidable bearings simultaneously in the same direction, and means for advancing or retracting one set of bearings on one side of the machine independently of the other set of bearings.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WILLIAM EVANS.

Witnesses:

THOMAS M. SMITH,
GEORGE W. LEVERING.