No. 715,482. Patented Dec. 9, 1902.

J. S. KAUFFMAN.

PIVOT JOINT FOR TOBACCO STALK CUTTERS, PRUNING SHEARS, OR THE LIKE.

(Application filed Apr. 19, 1902.)

(No Model.)

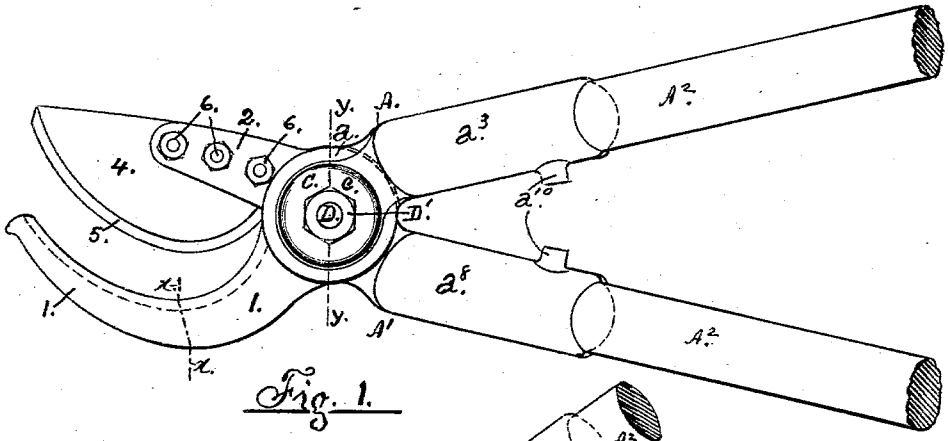


Fig. 1.

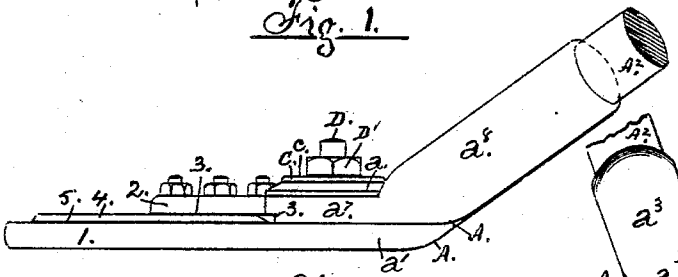


Fig. 2.

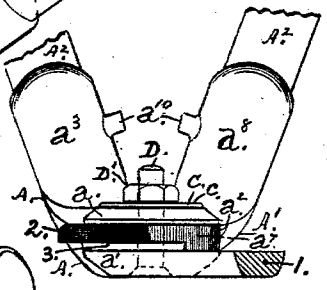


Fig. 3.

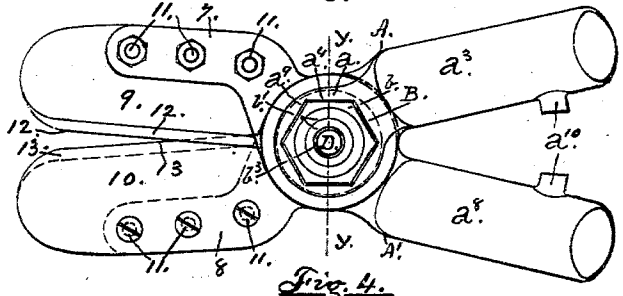


Fig. 4.

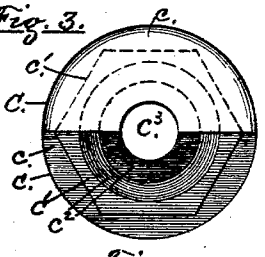


Fig. 5.

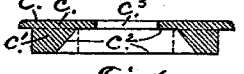


Fig. 6.

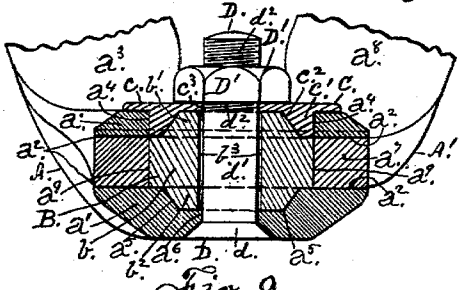


Fig. 9.

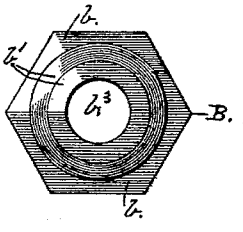


Fig. 8.

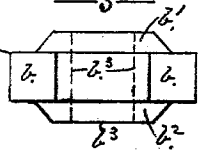


Fig. 7.

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UNITED STATES PATENT OFFICE.

JACOB S. KAUFFMAN, OF LANCASTER, PENNSYLVANIA.

PIVOT-JOINT FOR TOBACCO-STALK CUTTERS, PRUNING-SHEARS, OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 715,482, dated December 9, 1902.

Application filed April 19, 1902. Serial No. 103,716. (No model.)

To all whom it may concern:

Be it known that I, JACOB S. KAUFFMAN, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Pivot-Joints for Tobacco-Stalk Cutters, Pruning-Shears, or the Like; 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.

This invention relates to improvements in a pivot-joint for tobacco-stalk cutters, pruning-shears, and the like of that class in which an angular block with rounded ends fitting in sockets forms the chief feature of said joint, while a bolt serves to bind or hold the parts together.

The object of the invention is the production of a simple and effective pivot-joint working with a minimum of friction and without strain or wear on the pivot bolt or pin, being adjustable to a limited extent for taking up lost motion, practically dust-proof, and capable of carrying a quantity of lubricating matter.

The elements of the invention will severally and at large appear in the following description, and they will be separately or combinedly pointed out or set forth in the appended claims.

The purposes of the invention are attained by the mechanism, devices, and means illustrated in the accompanying drawings, similar reference characters designating like parts throughout the several views, in which—

Figure 1 is a top view of a tobacco-stalk cutter having a pivot-joint embodying the elements of the invention, being partially in open position; Fig. 2, a side elevation of Fig. 1; Fig. 3, an elevation of Fig. 1 viewed from the left with the cutting-blade removed and the curved arm appearing in section, taken on the line $x\,x$; Fig. 4, a top view of a cutter having two cutting-blades with the top washer-plate and the securing-nut removed; Figs. 5, 6, 7, and 8 are enlarged views showing in detail the top washer-plate and the pivot-block; and Fig. 9 is an enlarged sectional elevation taken on the line $y\,y$ in Figs. 1 and 4, showing the elements of the invention in operative positions.

In the drawings the joint of the invention is shown in the construction of two cutters, the one having a single cutting-blade working shearingly in connection with a curving arm, both blade and arm being well known to the trade and no part of the invention, and the other having two blades working shearingly together, being also well known to the trade and no part of the invention, and with the exception of these blades and the arms supporting them and making their operation possible the cutters are alike in every respect, so that the same reference characters may be used in the description without confusing the parts. Each of these cutters has two pivoted-together members A A′, and in order that said members may be supported in steady and firm but smooth and easy working positions the following specific construction is provided: The member A consists of two practically circular disk-plates $a\ a'$, arranged in parallel planes, having a prescribed cylindrical space or recess a^2 therebetween, said plates projecting from the lower end of a socketed handle-stem a^3, as shown. The plate a through its body is provided with a prescribed angular aperture a^4, and the plate a' interiorly with a prescribed socket a^5, having a central orifice a^6 through its body with a countersunk recess in the bottom thereof, as shown. The member A′ consists of a practically circular disk-plate a^7, neatly fitted into said space or recess a^2 and projected from the lower end of a socketed handle-stem a^8, also as shown, said plate a^7 being provided with an angular aperture a^9 of a size similar to and in certain positions registering with said aperture a^4. Into the sockets of the stems $a^3\ a^8$ are fitted or driven the prescribed ends of handle-bars A^2, whereby the cutters are worked or operated, and the stems on their adjacent surfaces are provided with lugs a^{10}, preventing the outer ends of the handle-bars from striking together or contacting to the injuring of the hands while operating or working the cutters.

To complete the pivot-joint, there is a block B, of requisite size and shape, having an angular body b, with top and bottom projections $b'\ b^2$ and a central orifice b^3 therethrough. (See Figs. 7 and 8.) This block B is passed through the aperture a^4 of the plate a and seated in the aperture a^9 of the plate

a^7, with its body b neatly fitting said latter aperture, its bottom projection b^2 seated and neatly fitting in said socket a^5, its top projection b' extending wholly into said aperture a^4, and its orifice b^3 lying over the orifice a^6, but having a slightly-greater diameter. A washer C, consisting of a prescribed circular disk or top plate c, having a prescribed angular bottom projection c', with a prescribed socket c^2 in the under surface thereof and a central orifice c^3 therethrough, is placed on top of the plate a, with its projection c' seated and neatly fitting in the aperture a^4 of the plate a, its socket c^2 engaging and neatly fitting on the top projection b' of the block B, and its orifice c^3 of equal diameter with the orifice a^6, with which and the orifice b^3 of the block B said orifice c^3 completes a vertical aperture extending through the parts. A bolt D, having a beveled head d, a smooth portion d', and a threaded end d^2, is inserted upwardly through said latter aperture, with its head seated in the countersunk recess of the plate a' and its shaft or stem neatly fitting in the orifices a^6 and c^3, respectively, of said plate a' and of the washer C, with its smooth portion d' having the requisite clearance in its passage through the orifice b^3 of the block B, preventing all contact therewith, while a nut D' on its threaded end d^2 and screwed home onto said washer completes the pivot-joint, securely holding the parts together and without working or wearing on said bolt.

Providing the plate a' of the member A with a forwardly-projecting curved arm 1 of approved dimensions and shape in cross-section and in the plane of said plate and providing the plate a^7 of the member A' with a forwardly-projecting arm 2 in the plane of said latter plate, said arm having a recess 3 in its under surface, into which recess is placed a blade 4, with a cutting edge 5 and secured in place, as by bolts and nuts 6, all as shown, said blade working shearingly over the top surface of said arm, a cutter (illustrated in Figs. 1, 2, and 3) is produced. Again, providing the plates a' and a^7 of said members and situated in their respective planes, with oppositely-disposed arms 7 and 8, having blades 9 and 10 secured to their adjacent surfaces, as by bolts and nuts 11, said blades being provided with cutting edges 12 and 13, working shearingly together, all also as shown, a cutter (illustrated in Fig. 4) is produced.

The invention having been thus ascertained and described and the manner in which it is performed fully set forth and shown, what is considered new, and desired to be secured by Letters Patent, is—

1. A pivot-joint comprising two members, one member having a socketed handle-stem with two parallel plates projecting from the lower or closed end thereof, with a prescribed recess between the plates, the upper plate having a prescribed aperture through its body, and the lower plate in its surface within said recess having a prescribed socket with a central orifice having a countersunk recess in the bottom thereof, and the other member having a socketed handle-stem with a plate projecting from the lower or closed end thereof and neatly inserted in the recess between said parallel plates, and said inserted plate having through its body an aperture registering with the aperture in said upper plate; a pivot-block neatly seated in said latter aperture, said block having a bottom projection neatly seated in the socket of said under plate, and a top projection extending into the aperture of said upper plate, with a prescribed orifice axially through its body; a circular disk placed on top of said upper plate, said disk having an angular projection neatly engaging in the angular aperture of said plate, and having in its under surface a socket neatly engaging on the top projection of said pivot-block, and having a central orifice through its body; and a taper-headed bolt passing through the axial orifices of the parts, with its head seated in the countersunk recess of the under plate, and a nut engaging on its threaded end, said nut screwed home onto said disk; all substantially as described and for the purpose hereinbefore set forth.

2. A pivot-joint for tobacco-stalk cutting shears and the like consisting of two members, each member having a socketed handle-stem, the one of said members having a pair of parallel plates with a recess therebetween, the upper plate having an angular aperture and the under plate, in its inner surface, having a circularly-concaved socket with a central orifice through its body and a recess countersunk thereinto on the under side thereof, and the other one of said members having a plate neatly fitted into said recess and having an aperture through its body to register with said former aperture; an angular pivot-block neatly fitted into said latter aperture, said block having a bottom projection neatly seated in the socket of said under plate, also a top projection extending into the aperture of said top plate, and an axial orifice through its body; a washer-plate having an angular bottom projection with a socket in its under surface and a prescribed orifice through its body, said washer-plate placed on top of said upper plate, said projection neatly fitting in the aperture of the plate, said socket neatly engaging on the top projection of the block, and said orifice completing a prescribed orifice through the parts; and a bolt passing upwardly through said latter orifice, its head engaging in the countersunk recess of said under plate, its body closely fitting in the orifices of the under and washer plates, with a prescribed space therearound in its passage through the pivot-block, and a nut on its threaded end and screwed home onto said washer-plate; all substantially as described and for the purpose hereinbefore set forth.

3. The combination in a pivot-joint of the

character described, with the member, A, having the parallel plates, a a', with the recess, a^2, therebetween, and the handle-stem, a^3, said plate, a, having the angular aperture, a^4, and said plate, a', having the socket, a^5, with the orifice, a^6, outwardly widened at the lower end thereof, and the member, A', having the plate, a^7, seated in said recess, a^2, said latter plate having the handle-stem, a^8, and the angular aperture, a^9; of the pivot-block, B, having the angular body, b, the top projection, b', the bottom projection, b^2, and the axial orifice, b^3, with its body, b, seated in said aperture, a^9, its projection, b^2, engaging in said socket, a^5, its projection, b', extending into said aperture, a^4, and its orifice, b^3, overlying said orifice, a^6; the washer, C, consisting of the disk-plate, c, having the angular bottom projection, c', with the under-surface socket, c^2, and the central orifice, c^3, with its plate, c, placed on said plate, a, its projection, c', neatly seated in said aperture, a^4, its socket, c^2, engaging on said projection, b', and its orifice, c^3, completing an axial orifice through the parts; and the bolt, D, passing upwardly through said axial orifice, with its head seated in the widened portion of the orifice, a^6, its body, d', neatly fitting said orifice, a^6, and said orifice, c^3, with the prescribed space surrounding it in said orifice, b^3, and the nut, D', on its threaded end, d^2, and screwed home onto said washer, C, substantially as described and for the purpose hereinbefore set forth.

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

JACOB S. KAUFFMAN.

Witnesses:

PAUL A. HERR,

DANIEL H. HERR.