Feb. 17, 1931. G. FRANCYK 1,793,392

SAWING MACHINE

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Fig. 1.

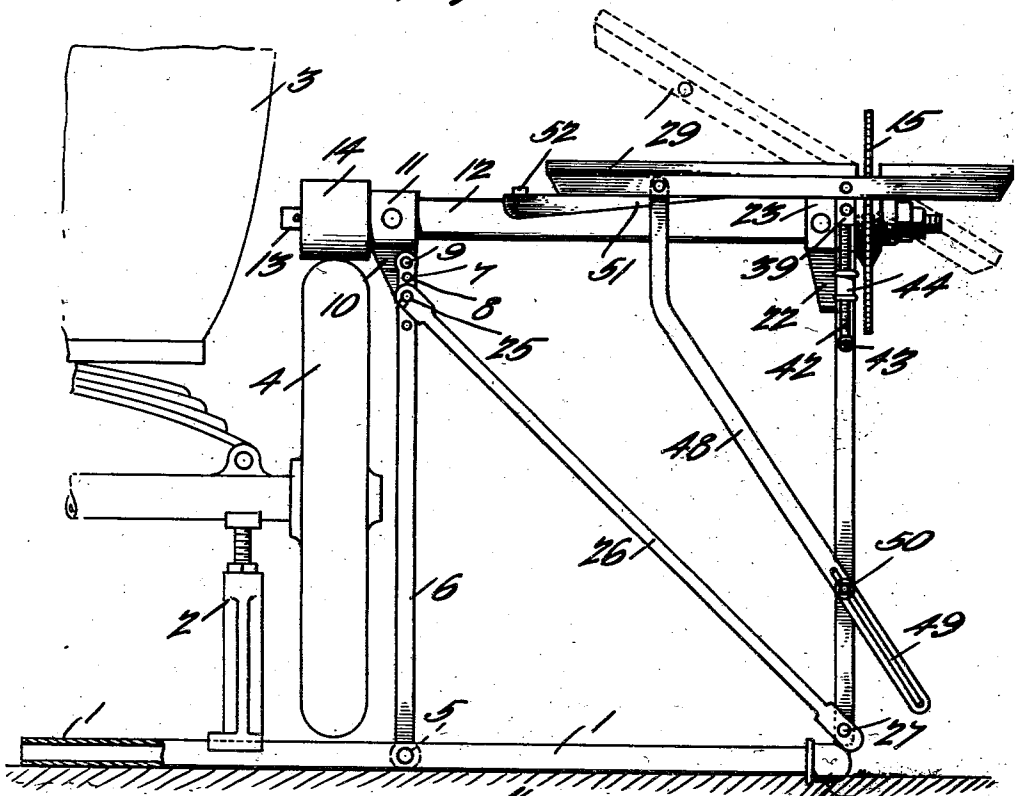
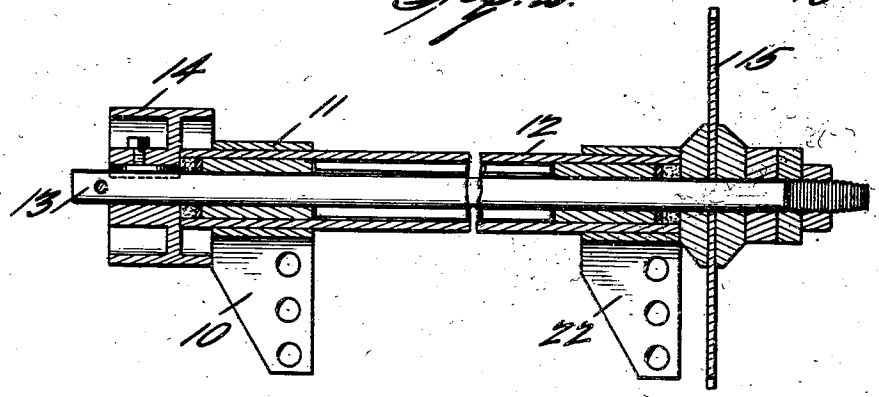


Fig. 2.



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SAWING MACHINE

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Fig. 3.

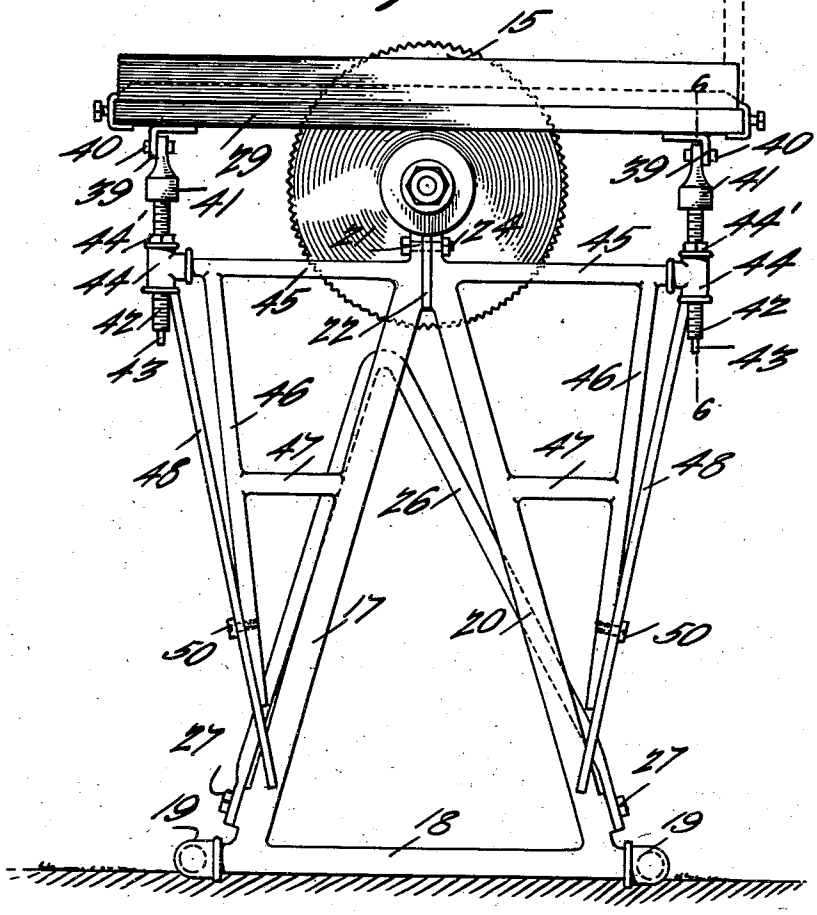
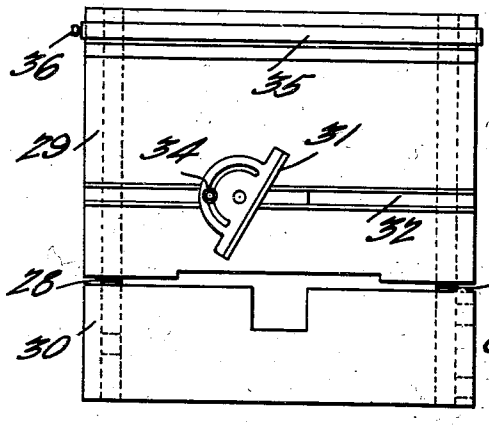


Fig. 4.



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SAWING MACHINE

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Fig. 5.

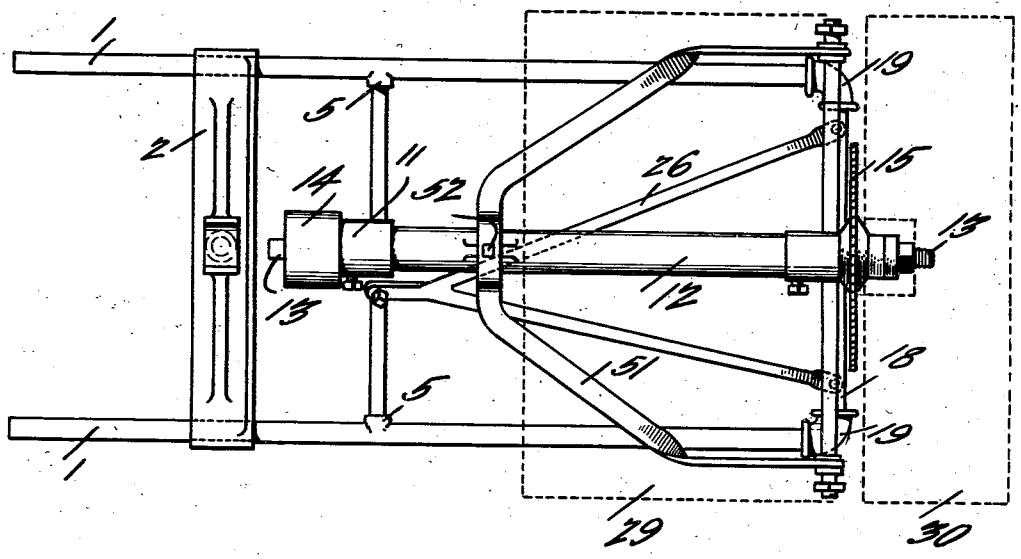


Fig. 6.

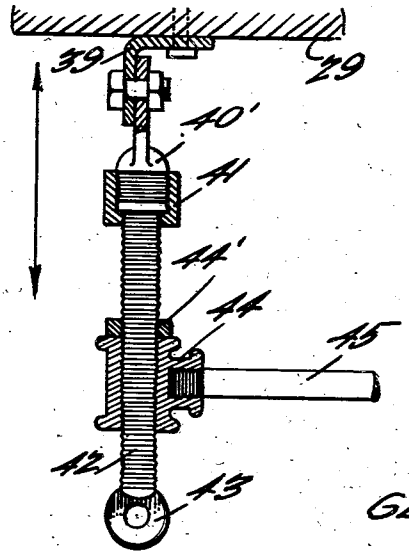
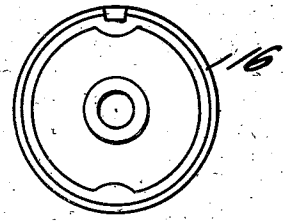


Fig. 7.



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SAWING MACHINE

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Fig. 8.

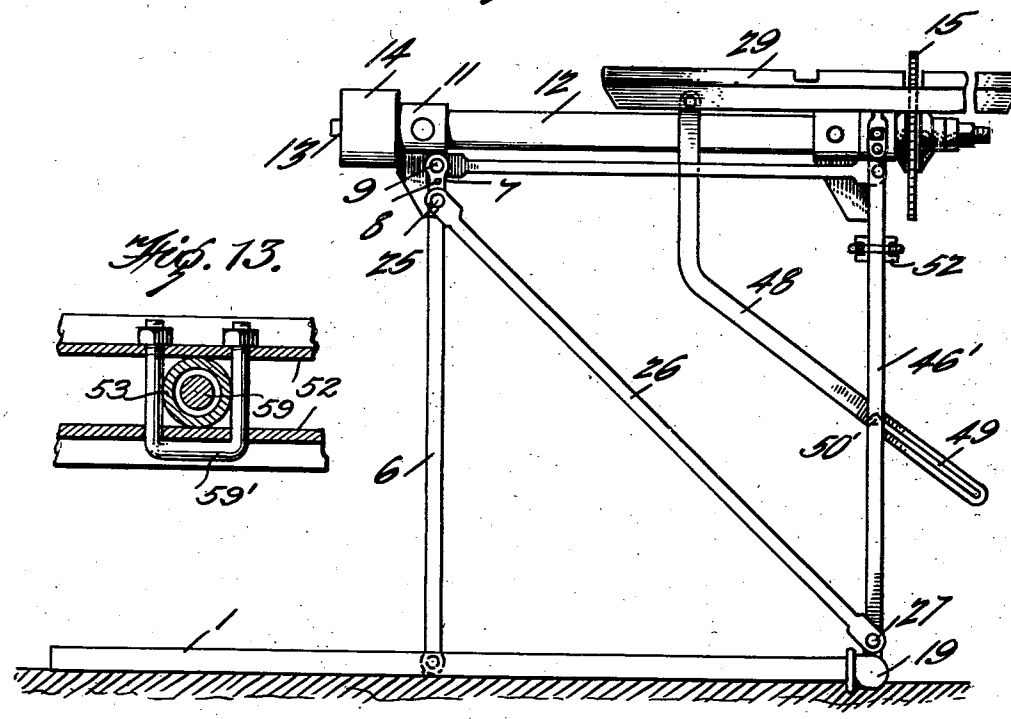


Fig. 13.

Fig. 9.

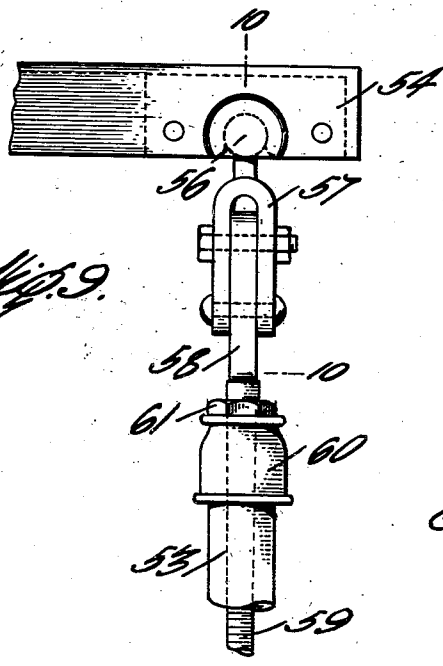
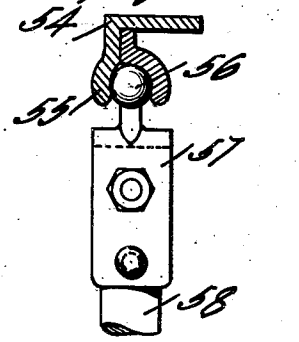


Fig. 10.



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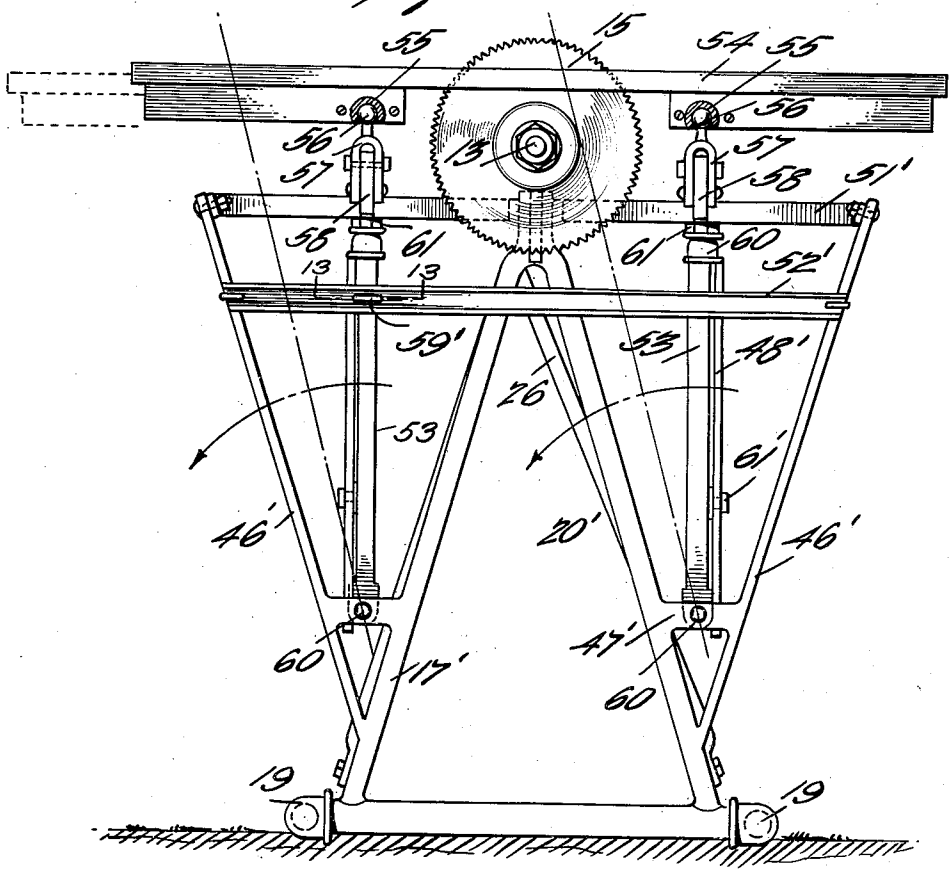
BY Victor J. Evans
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SAWING MACHINE

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Fig. 11.



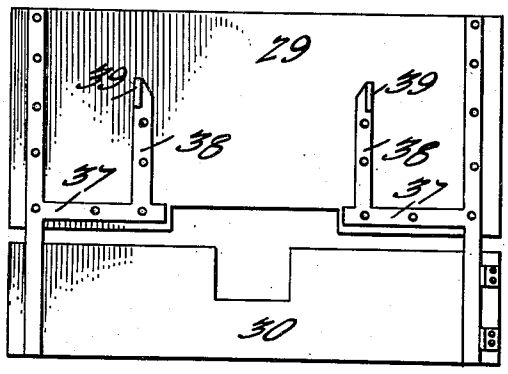


Fig. 12.

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Patented Feb. 17, 1931 1,793,392

UNITED STATES PATENT OFFICE

GEORGE FRANCYK, OF AKRON, OHIO

SAWING MACHINE

Application filed May 31, 1930. Serial No. 458,384.

My present invention has reference to a sawing machine that is primarily designed to be driven by one of the wheels of a motor vehicle and is of a nature similar to the portable and adjustable sawing machine upon which I am seeking U. S. patent protection through application Serial No. 379,477, filed by me July 19, 1929. An object of the invention is the provision of a sawing machine of the type stated which will not only embody the portable and adjustable features disclosed in my mentioned application Serial No. 379,477 but which shall be of a collapsible nature whereby the same may be readily folded to present a comparatively small article for storage or for shipment, but which when set up will afford a strong and sturdy structure.

A further object is the provision of means whereby the height of the table may be adjusted to compensate for various sizes of motor vehicle wheels.

To the attainment of the foregoing the invention consists in the construction and arrangement of elements disclosed, it being understood that modifications may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings:

Figure 1 is a side elevation of one form of the improvement in applied position.

Figure 2 is an approximately central longitudinal sectional view through the housing for the saw shaft.

Figure 3 is a front elevation of the improvement.

Figure 4 is a top plan view of the table.

Figure 5 is a plan view of the improvement.

Figure 6 is a detail sectional view approximately on the line 6—6 of Figure 3.

Figure 7 is a side elevation of a sand paper carrying wheel which may be employed.

Figure 8 is a side elevation illustrating a slightly different construction.

Figure 9 is a detail elevation to illustrate the connection between the side of the table and the front of the frame.

Figure 10 is a detail sectional view approximately on the line 10—10 of Figure 9.

Figure 11 is a front elevation of the device disclosed by Figure 8.

Figure 12 is a bottom plan view of the table.

Figure 13 is a sectional view approximately on the line 13—13 of Figure 11.

As the description progresses it will be noted that my present invention involves structural features similar to those set forth in my mentioned application Serial No. 379,477, but the points of distinction between my said construction and the application will be apparent and will be mentioned in detail.

The improvement comprises a frame, preferably constructed of pipes or tubular elements. The frame includes a base formed of a pair of spaced pipes or tubes 1. The spaced tubes 1 are designed to be engaged by the rounded or downwardly flared ends of the base portion or support for the removable jack 2 whereby one side of a motor driven vehicle 3 may have one of its rear or drive wheels 4 elevated to turn the saw shaft.

The tubular base members 1 in both forms of the invention are provided with oppositely arranged inwardly directed bosses 5 in which there are journaled and held from longitudinal movement the offset ends of the yoke-like and tubular rear vertical support 6. The top of the yoke support 6 is formed with a straight extension 7 that is preferably provided with any desired number of spaced apertures 8, and through one, preferably the upper aperture, there is passed a bolt or like element 9 that also passes through one of a plurality of apertures in the depending arm 10 for the inner sleeve member 11 that is secured around the tubular shaft housing 12. The shaft housing is substantially similar to that set forth in my application, the shaft 13 being journaled on roller bearings therein and there being suitable means for lubricating the shaft and bearings. The shaft 13 at one end carries a friction wheel 14 to be contacted by the vehicle wheel and thereby revolve the shaft. The second or outer end of the shaft 13 passes a suitable distance through the tubular housing 12 and is provided with means for arranging thereon a circular saw 15 or for securing on the outer

end thereof, with the saw removed or in position various tools as set forth in my mentioned application or the sanding wheel 16 may be attached to this end of the shaft. Also if desired the sand wheel 16 may be employed in lieu of the friction wheel 14. The wheel 16 is provided with removable clamping means for holding between the grooved peripheral flanges thereof a layer of compressible material and a continuous strip of sand paper.

The front vertical support of the device also is in the nature of a yoke, the inwardly inclined inner angle arms 17 thereof being connected to the transverse tubular member 18 whose ends are journaled but held from longitudinal movement in couplers 19 at the ends of the base members 1 of the frame.

The angle tubular arms 17 of the outer vertical support or end 20 of the frame do not have their upper portions connected, but the said portions are spaced away from each other and formed each with an upstanding ear 21. The ears 21 are designed to receive therebetween the depending arm 22 on the outer sleeve 23 that is arranged around and secured to the tubular shaft housing 12. The arm 22 is provided with a series of vertically spaced apertures and through one of these apertures and through apertures in the ears 21 there is passed a fastening bolt 24 which, of course, is engaged by a nut. As far as the description has progressed it will be apparent that the shaft housing is supported for vertical adjustment on the vertical members of the frame and such adjustment, together with the adjustment of the jack 2 will insure the proper frictional engagement between the vehicle wheel 4 and the friction wheel 14 so that the turning of the wheel 4 will turn the shaft 13.

Secured by a lag screw or like element 25 in any one of the apertures 8 on the inner support there is the inner and flat end arranged at the center of the yoke-shaped brace 26. The arms of this brace are removably and pivotally secured to the lower and outer sides of the angle part 17 of the front support 20 by means 27. The brace means sustain the frame in upright position but it will be apparent that by removing either the fastening elements 25 or 27 that the normally upright elements of the frame may be swung against the base thereof and likewise that the shaft housing will be swung centrally between the frame elements and brace, so that the device can be thus folded into a comparatively small package for shipment or for storage. It will be further apparent that the device can be easily and quickly set up to produce a rigid structure.

The table top disclosed in detail in Figures 4 and 12 of the drawings comprises two members, each of a substantially rectangular formation connected together but having their confronting edges held in spaced relation by metal bars or plates 28 that secure the sections 29 and 30 of the table top together. The confronting edges of the sections 29 and 30 are notched to receive the saw therethrough and likewise to receive therethrough any of the tools or implements secured on the outer and threaded end of the saw shaft. The section 29 has arranged for transverse movement on the top thereof a swingable mitre gage 31 which is movable into a grooved metal track 32, the said mitre gage being held at the desired angle by the usual adjustable headed bolt that passes through the arcuate slot in the body of the gage. The table top is also provided with a transversely arranged ripping gage 35 that has angle or curved ends to engage the edges of the table top and one or more binding elements 36 for holding the ripping gage 35 adjusted.

As disclosed by Figure 12 the metal connecting strips 28 have lateral branches 37 disposed adjacent to the inner edge of the top section 29 and these angle branches are formed with lateral or longitudinal extensions 38 each of which is provided at its end with a downturned ear 39. These ears are designed to receive therethrough preferably removable pivots 40 which pass through the straight ends of headed members 40′ which are screwed in socket members 41 and the socket members carry depending adjusting screws 42. The lower ends of the screws 42 are provided with heads 43 and the screws are threaded through bearings, preferably in the nature of T-shaped couplers 44 which are connected to the horizontal arms 45 that extend from the side members 17 directly below the ears 21 of the front vertical support 20 of the frame. Lock nuts 44′ are threaded on the adjusting screws and contact with the top of the sockets or couplings 44. By this arrangement it will be noted that the outer end of the table may be vertically adjusted.

The elements 45 are connected to depending tubular elements 46 which are arranged at an outward angle with respect to the parts 17 of the front vertical support of the frame but have their ends either integrally formed with or secured thereto, there being transverse brace tubes 47 between the members or elements 17 and 46. The inner or rear portion of the table has pivotally secured thereto angle brace bars 48. These brace bars have their outer ends provided with elongated slots 49 through which there are passed headed elements or lag screws 50 that are threaded through the outer elements 46 of the front vertical support 20. By this arrangement it will be noted that the rear of the table may be angularly adjusted upon the pivots 40. To more effectively sustain the table rigidly supported the same has pivotally secured thereto a yoke-like brace 51, the central portion of which being arched transversely and

arranged over the housing 12 and adjustably secured on the said housing by a binding element 52.

From the foregoing it will be seen that the table may be either vertically or angularly adjusted with respect to the frame and to the shaft housing 12 so that the saw 15 will be employed for cutting lumber at desired bevels or angles and likewise that the table top is firmly supported in any of the adjusted positions. There is preferably locking means between the saw table and the bracing bracket 51.

The construction above referred to permits of the folding of the frame, the supporting and tilting of the table top on the frame, but does not permit of the longitudinal movement of the saw table, and to accomplish this I produce a slightly different construction of the front normally vertical support 20′ of the frame and likewise a slightly different arrangement of parts between the said front or support 20′ and the table top. In this instance, the transverse braces 47′ are arranged adjacent to the bottom of the angle side members 17′ of the front or support 20′ and the outer angle end members 46′ may be in the nature of flat rods connected to the braces and to the members 17′. The upper ends of the angle elements 46′ are connected together by a brace bar 51′, and below the brace bar there is a channeled guide member 52′ which is also connected to the elements 46′. The brace members 47′ have pivotally secured thereto the lower and flattened ends of upstanding tubular members 53.

The sides of the table top 54 are spaced and provided with sockets 55 for the ball heads 56 at the straight end of substantially U-shaped or clevis members 57. Each clevis 57 has removably secured therein the upper and flat end 58 of a threaded rod 59 that is received in the tubular member 53. Each tubular member 53 has its upper or outer end provided with a cap 60 through which the rods 59 pass and screwed on the rods and contacting with this cap there are lock nuts 61. By adjusting the lock nuts it will be apparent that the rods may be adjusted longitudinally in the tubular members 53. The flat ends 58 of the rod members are guided along the brace 51 and the tubular members 53 are guided between the channeled guides 52. The channeled guides 52 are provided with spaced apertures for the reception of U-bolts 59′ which contact with the opposite sides of the tubular socket members 53 and hold the said socket members when swung on their pivots 60 which connect the same to the brace elements 47′ and whereby the table top 54 may be moved longitudinally, as disclosed by the dotted lines in Figure 11 of the drawings and sustained when thus longitudinally adjusted. The tubular members 53 have on their outer faces, adjacent to their pivoted lower ends bosses for the reception of lag screws 61′ that pass through the elongated slots in the brace elements 48′. As stated, in other instances the construction is similar to that previously described.

The framework of both forms of my improvement, as previously stated, consists of tubular members which are preferably in the nature of steel pipes as well as angle and channeled steel members but the table top is of wood. All of the joints are welded except when connected by bolts and nuts as shown and described.

The construction of the improvement and the advantages thereof will, it is thought, be understood and appreciated by those skilled in the art to which such invention relates without further detailed description.

As disclosed by Figure 13 the roller bearings in the shaft 13 have a roller sleeve in which the roller bearings are received. The purpose of the U-bolts 59 is to hold the tubular members 53 rigid when the table is not to be swung. The U-bolts pass through channeled iron guides and around 53 as disclosed by the drawings.

Having described the invention, I claim:—

1. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base.

2. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members.

3. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members, a saw table, adjustable and pivoted brace means between the saw table and the front of the frame.

4. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between

the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members, a saw table, adjustable and pivoted brace means between the saw table and the front of the frame, and a pivotally connected bracket for the saw table overlying and adjustably secured to the housing.

5. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members, a saw table, adjustable and pivoted brace means between the saw table and the front of the frame, a pivotally connected bracket for the saw table overlying and adjustably secured to the housing, and means for pivotally and adjustably securing the saw table to the front of the frame.

6. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members, a saw table, adjustable and pivoted brace means between the saw table and the front of the frame, and a pivotally connected bracket for the saw table overlying and adjustably secured to the housing, and means for pivotally and adjustably securing the saw table to the front of the frame, and a pivoted and adjustable support between the saw table and the front member of the frame.

7. In a device of the class described, a frame comprising spaced members, front and rear members having their bottom portions swingably secured to the base members of the frame and removable brace means between the front and rear members for holding the same in upright position or for permitting the said members to swing against the base, a housing for a saw shaft, adjustable pivot means securing the housing to said members, a saw table, adjustable and pivoted brace means between the saw table and the front of the frame, a pivotally connected bracket for the saw table overlying and adjustably secured to the housing, means for pivotally and adjustably securing the saw table to the front of the frame, and said means permitting the sliding and swinging of the saw table with respect to the shaft housing.

8. In a device of the class described, a pulley carrying saw shaft, a housing for the shaft, apertured arms extending from the housing, a frame including a base comprising two spaced hollow members, a rear yoke having its arms journaled in the said members and having the straight apertured extension removably and adjustably connected with one of the apertured arms, an outer yoke having a bottom portion whose ends are journaled in the outer end of the base, said outer yoke having its connected end provided with depending ears to receive therebetween, and to be adjustably secured to the outer end of the housing, a pivoted angle brace on the arms of the outer yoke and adjustably secured to the straight end of the first mentioned yoke, said outer yoke having lateral extensions at its ear portions and brace means therethrough, threaded adjustable means supported by said extensions, sockets on said threaded means, a saw table to which the sockets are loosely connected, an angle and adjustable brace between the saw table and the outer yoke, a bracket carried by the saw table to overlie the housing, means for adjustably securing the bracket to the housing and means for locking the bracket to the saw table.

In testimony whereof I affix my signature.

GEORGE FRANCYK.