To all whom it may concern:

Be it known that I, JOHN F. ENGEL, a citizen of the United States, residing at 1104 Prospect avenue, Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tubular Tire-Saving Jacks, of which the following is a specification.

My invention relates to improvements in tubular tire saving jacks, and has for its object the construction of a simple, strong and efficient stamped metal jack for sustaining the weight of a vehicle while standing in storage or in the garage.

My improvements relate primarily to features of construction adapting the device to be made throughout from sheet metal stampings; which stampings are designed to afford a maximum of strength and permit easy operation and adjustment.

The features of my improvement are more particularly specified in the appended claims, as explained by the accompanying specification.

The jack embodying my improvement may be more readily explained by making reference to the accompanying drawings, wherein:—Figure I is a view of the jack in elevation. Fig. II is a plan view of one of the blanks forming the upright thereof. Fig. III is a view of the lifting column in elevation. Fig. IV is a plan view of the pivotal clamp-blank. Fig. V is a plan view of the base. Fig. VI shows in plan, my form of blank for making the tubular handle, and Fig. VII is a plan view of the bifurcated blank for forming the link.

Throughout the several figures of the drawings, I have employed the same character of reference to indicate similar parts.

A jack of the character described, preferably combines lightness of weight and ease of operation, by reason of its frequent handling and constant use. For this reason, I have adopted a tubular telescopic construction for the uprights and handle of my improved jack and a specialized toggle-joint adjustable along a web integral with said upright, the features of which will be best appreciated by referring to the figures of the drawing in elevation.

The base plate \(a\) is stamped with a slightly elevated central depression \(a'\) from which radial ribs \(a''\) extend to the corners of the base. A two-part tubular upright \(b\) formed with riveted lateral webs \(b'\), which extend through openings in the base plate and are there upset or headed in order to mount said upright securely upon the base plate. Preferably the upright \(c\) forms an angle of approximately \(45\) degrees with the true vertical, in order to compensate for the extension of a large pneumatic tire. As thus inclined, a jack obviously has unequal strain placed upon it in use. To compensate for this, the lateral webs preferably are positioned in the plane of, or generally in line with, the angle of inclination, so that this extra strain may be transmitted thereby directly to the base. One web \(b'\) is provided with a plurality of punched holes \(b''\) in any one of which the link \(e\) of the compound lever or knee-joint may be adjustably positioned, merely by removing and reinserting the bolt \(e'\). The said link is approxi-mately \(U\)-shaped in cross-section, and is adapted to embrace the web \(b'\) when the jack is in its extended or elevated position.

The tubular column \(d\) is formed from a flat piece of sheet metal with the heads or platform formed from two integral curved wings \(d'\) covered with leather \(e\). The platform is supported and the tubular column firmly gripped by an annular clamp \(f\) which takes into a slight recess at the top of the column and forms a connecting reinforcement beneath the head or platform for the lever \(g\), which is pivoted between the lugs \(f'\) and the upper end of link \(c\). With the column inserted within the tubular upright, it will be seen that merely by raising or lowering the lever-handle, said column may be correspondingly lowered or raised. When completely depressed, the handle reacts against the link and web and is forced into a slightly off-center position, for locking the jack and supported weight in their elevated positions. The height of the jack is very easily regulated merely by adjusting the pivot bolt of link \(c\) along the web \(b'\) forming the fulcrum, as is ample provided for, by numerous perforations.

Having now described the preferred embodiment of my invention, I claim as new and desire to secure by Letters Patent the following:

1. In a jack of the class described, the combination with a base, of an inclined tub-ular upright provided with a perforated and an opposing web extending from the base

2. The tubular column...

3. The jack...
upon opposite sides of the upright, and in the plane of its inclination, a telescoping column inserted within said tubular upright, a lever pivoted upon said column, and a link pivoted to said lever and adjustably mounted upon the perforated web, substantially as set forth.

2. In a sheet-metal jack of the class described, the combination with a sheet-metal base ribbed and centrally depressed, of a tubular upright riveted to said base and provided with an integral longitudinal web, a double centrally-stayed link embracing said web and adjustably pivoted thereon, a tubular column inserted within the upright, and a lever-handle pivoted respectively upon said column and link and adapted to elevate and lower the former, substantially as set forth.

3. The combination in a lifting jack, with a base portion, of an inclined sheet metal upright secured thereto, longitudinal strengthening webs provided upon opposite sides thereof generally in line with the inclination of said upright and supported directly by the base, a column and supporting head adjustably pivoted to the upright, a lever pivoted thereto, and an adjustable pivotal mounting for the lever upon one of said webs, substantially as set forth.

4. In a sheet-metal lifting jack, the combination with a base, of an inclined tubular upright secured thereto, the same comprising two attached members affording diametrical strengthening longitudinal webs, one of which is perforated at intervals, said webs being positioned in the plane of inclination of said upright, a tubular column and head telescoping within the upright, a collar embracing said column adjacent to the head, a lifting lever pivoted to said collar, and a link pivoted at its upper end to said lever and adjustably pivoted upon the perforated web, to form a compound lever, substantially as set forth.

5. In a sheet-metal jack, the combination with a base-member, of a tubular sheet-metal upright having an integral web with numerous openings therein, a link of U-shaped cross-section fitting about said web and adjustably pivoted from any of said openings therein, a tubular column inserted within the upright, a supporting head thereon, and a lever-handle pivoted respectively upon said link and column to form a toggle-joint, substantially as set forth.

6. In a tire-saving jack, the combination with a base-member of a tubular sheet-metal standard mounted therein, a tubular sheet-metal column telescopically mounted within the standard, a supporting head surrounding said column, a tubular sheet-metal handle formed of a bifurcated blank flattened at its inner end, and pivoted upon said column, and a link pivoted to the handle, and adjustably pivoted upon the standard, substantially as set forth.

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

JOHN F. ENGLE.

Witnesses:  
A. C. KNIGHT,  
ALBERT LEXN LAWRENCE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."