No. 787,248. PATENTED APR. 11, 1905.

G. L. WILSON.

SQUARE.

APPLICATION FILED FEB. 13, 1904.

Fig. 1

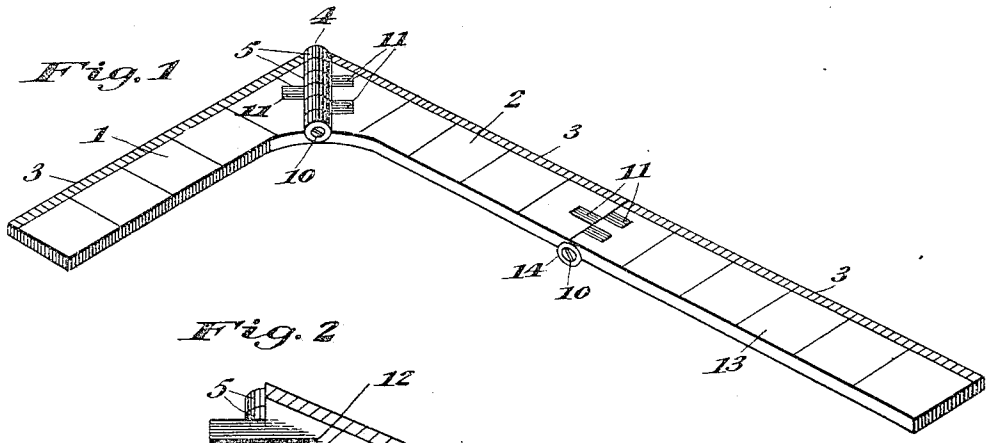


Fig. 2

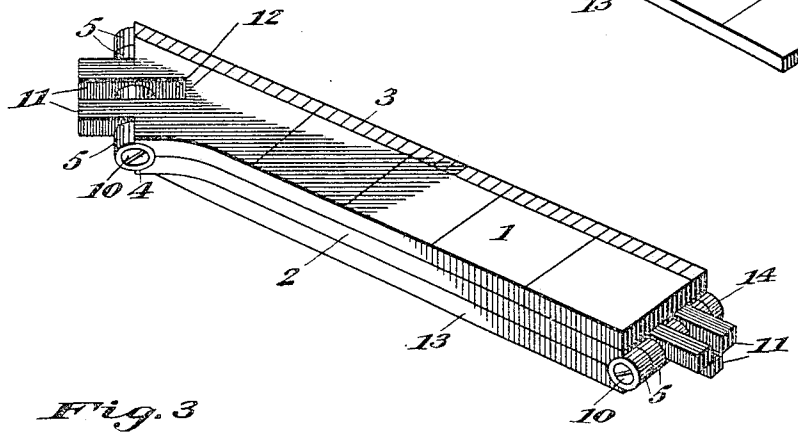


Fig. 3

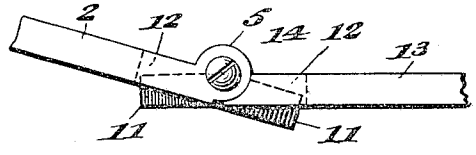
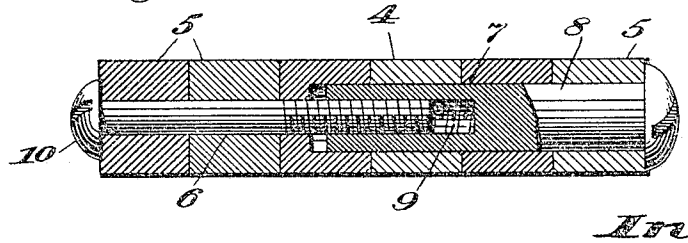


Fig. 4



Witnesses
C. S. Kelly
C. Caplinger

Inventor
Generous L. Wilson
By J. C. Caplinger
Attorney

No. 787,248. Patented April 11, 1905.

UNITED STATES PATENT OFFICE.

GENEROUS L. WILSON, OF CHICAGO, ILLINOIS.

SQUARE.

SPECIFICATION forming part of Letters Patent No. 787,248, dated April 11, 1905.

Application filed February 13, 1904. Serial No. 193,375.

To all whom it may concern:

Be it known that I, GENEROUS L. WILSON, a citizen of the United States of America, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Squares, of which the following is a specification.

This invention relates to certain improvements in squares, such as are used by masons, carpenters, tailors, and others for laying off work: and the object of the invention is to provide a square of this general character of a simple and inexpensive nature and of a strong and durable construction which shall be capable of being compactly folded up, so as to occupy a small space when not required for use, so as to permit of being more conveniently carried about than are such squares as ordinarily constructed with rigid or non-folding arms.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved square whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use than various other forms of square heretofore devised, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a perspective view showing a square constructed according to my invention with its folding parts or members extended in position for use. Fig. 2 is a perspective view drawn to a somewhat larger scale and showing the several parts or members of the improved square folded or compacted together in position to permit the device to be conveniently carried about. Fig. 3 is a fragmentary edge view showing the connections between adjacent ends of two of the parts or members of the improved square. Fig. 4 is an enlarged sectional view taken through the hinge connection between two of the parts or members of the improved square in the direction of the axis of the pivot-pin of said hinge.

As seen in the views, the improved square is formed from a plurality of parts or members of substantially equal length, and such parts or members are connected at adjacent ends by hinge connections somewhat in the nature of the well-known rule-joint, by means of which connections the several parts or members of the square are adapted to be folded over one upon another, so that when the device is not required for use it may be compactly folded up into a small compass.

In the drawings, 1 and 2 indicate two of the parts or members of the improved square, having graduations 3 of any desired nature and connected by a hinge connection 4, somewhat similar to the ordinary rule-joint, and said parts or members are adapted when unfolded in position for use to stand at right angles to each after the fashion of the arms of an ordinary square.

The hinge connection 4 is formed of metallic parts secured upon the adjacent ends of the parts or members 1 and 2 of the improved square, the body portions of said members 1 and 2 being ordinarily formed from wood or the like for lightness and simplicity.

The hinge connection 4 between the parts or members 1 and 2 of the improved square is arranged with its pivotal axis at an angle of forty-five degrees to the directions in which the said parts or members stand when unfolded, and said axis is alined in the plane of one surface of the square, whereby when one of said parts or members is moved upon said hinge connection it will fold over flush upon the surface of the other member and being of substantially equal width and length with such other member will correspond therewith, as clearly indicated in Fig. 2.

The hinge connection 4 is formed of rounded projections 5 5, perforated for the passage of a hinge-pivot through them, and said projections are alternately held upon the respective parts or members 1 and 2 of the square, those projections which are upon one of said parts or members fitting snugly between the projections upon the other part or member, so as to impart sufficient strength and stability to the hinge.

The projections 5 5 upon the members 1 and 2 at the hinge connection are produced upon

the metallic parts above referred to, which are secured to the ends of members 1 and 2, and said projections 5 5 are offset from and project beyond the corresponding surfaces of said members which are intended to fold flush on each other, so as to permit the pivotal axis of the hinge connection to stand in alinement with the plane in which said surfaces extend when unfolded, so that the members may be compactly folded one on the other.

As shown in the enlarged sectional view, Fig. 4, the projections 5 5 at one end of the hinge connection are formed with corresponding bores 6 of a small diameter, while those at the opposite end of said hinge connection are made in increased diameter, as seen at 7, and the larger bore thus provided at one end of the hinge connection is adapted to receive a pivot-pin 8, fitted snugly therein and having a length slightly greater than half the length of the hinge connection measured along its pivotal axis, the pivot-pin 8 being provided with a headed end which may be provided with a kerf to receive a screw-driver or other tool and having its opposite end formed with an interiorly-screw-threaded bore 9, in which screws the threaded end of a screw 10 of a diameter fitting snugly within the smaller bore 6 at the opposite end of the hinge connection. By this arrangement of the hinge connection it will be evident that any looseness which may result from wear between adjacent surfaces of the projections 5 5 may be readily taken up by application of a screw-driver or other tool to the heads of the screw 10 and of the pivot-pin 8, so that the hinge connection may be maintained firm and secure at all times and the parts or members 1 and 2 of the square be thereby held in proper position.

At the end of the part or member 2 opposite to the hinge connection 4 is located another similar part or member 13 of the improved square, and the said part or member 13 is held to said part or member 2 by means of a hinge connection 14 similar to the connection 4, but having its pivotal axis at right angles to the length of each of said parts or members 2 and 13 and alined in the plane of the surface of member 2 opposite to that surface with which the axis of the hinge connection 4 is alined and also alined in the plane of the corresponding surface of member 13, so as to permit the part or member 13 to fold over flush upon one side of the member 2, while the member 1 folds over upon the opposite side of the said member 2, as clearly shown in Fig. 2 of the drawings. The hinge connection 14 is otherwise formed similarly to the connection 4 and will be provided with a pivot-pin 8, interiorly screw-threaded to receive a screw 6, as above described and shown in Fig. 4.

By this construction of the improved square with parts or members connected by hinge connections it will be readily seen that the device when not required for use may be compactly folded up, so as to occupy a small space, and thus be capable of being conveniently carried about, and at the same time the device may be readily unfolded, so that its parts or members will be extended end to end in position for use.

In order to hold the parts or members of the square extended end to end in position for use, it may be desirable to provide a locking device at the hinged ends of the members, and on the drawings I have shown such a device at the connected ends of the parts or members, such locking device comprising extensions integrally formed upon certain of the pivotal portions or projections 5 5 of each member, which extensions are of elongated form and are made with flattened sides, as shown at 11 on the drawings, and are adapted when the members are extended in alinement for using the square to engage in similarly formed and proportioned sockets or recesses 12, produced in the end of the connected or adjacent members. These extensions 11 are designed to fit snugly in their sockets or recesses 12 and when engaged therein are adapted by their frictional contact to hold the members of the square in extended position for use.

When the square is folded up or compacted, as shown in Fig. 2, these extensions 11 will be withdrawn from their sockets or recesses 12 and will at such times project beyond the ends of the members to which they are respectively secured, as clearly shown in said Fig. 2.

From the above description it will be seen that the improved square is of an extremely simple and inexpensive nature and is especially well adapted for use by reason of being adapted to be folded and unfolded, and it will also be evident that the device is capable of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts of the device as herein set forth in carrying out my invention in practice.

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

1. A square having parts or members arranged end to end and joined by a hinge connection whereby one part or member is adapted to be folded flush on or unfolded and extended beyond the end of the other part or member, said hinge connection comprising perforated projections extended from the ends of the respective parts or members and adapted to receive a pivot pin or screw, the projections on one part or member being fitted between those on the other part or member,

ne member having a socket alined with one f the perforated lugs of the other part or ıember and the said perforated lug having an xtension projecting beyond the end of the ıart or member whereon it is held and adapt- d to fit in the socket of the other part or ıember when the members are in extended ıosition.

2. A square having parts or members ar- anged end to end and joined by a hinge con- ection the pivotal axis of which is arranged t an acute angle to the directions of length of uch parts or members, whereby one part or ıember is adapted to be folded flush on the ther or extended at an angle thereto, said inge connection comprising perforated pro- ections extended from the ends of the re- pective parts or members and adapted to re- eive a pivot pin or screw, the projections on ne part or member being fitted between hose on the other part or member, one part r member having a socket alined with one f the perforated lugs of the other part or ıember and said perforated lug having an xtension projecting beyond the end of the ıart or member whereon it is held and adapt- ed to fit in the socket in the other part or member when the members are extended.

3. A square having parts or members con- nected by a hinge connection and adapted to fold flush one upon another, said hinge con- nection comprising perforated projections ex- tended from the ends of the respective mem- bers, the projections on one member fitting between those on the other member and the projections at one end of the hinge connec- tion having a bore of less diameter than the bore of the projections at the other end of said connection, a pivot-pin fitted in the larger bore of said projections and having an inte- riorly-screw-threaded bore and a screw fitted in the smaller bore of the projections with a threaded end engaged in the threaded bore of the pivot-pin, said screw and pivot-pin having heads adapted to be engaged by a screw- driver or the like.

Signed at Chicago, Illinois, this 11th day of February, 1904.

GENEROUS L. WILSON.

Witnesses:

J. D. CAPLINGER,

C. CAPLINGER.