F. M. SNYDER.

KNOCKDOWN BASKET.

APPLICATION FILED NOV. 16, 1910.

987,410. **Patented Mar. 21, 1911.**

2 SHEETS—SHEET 1.

Fig. 1.

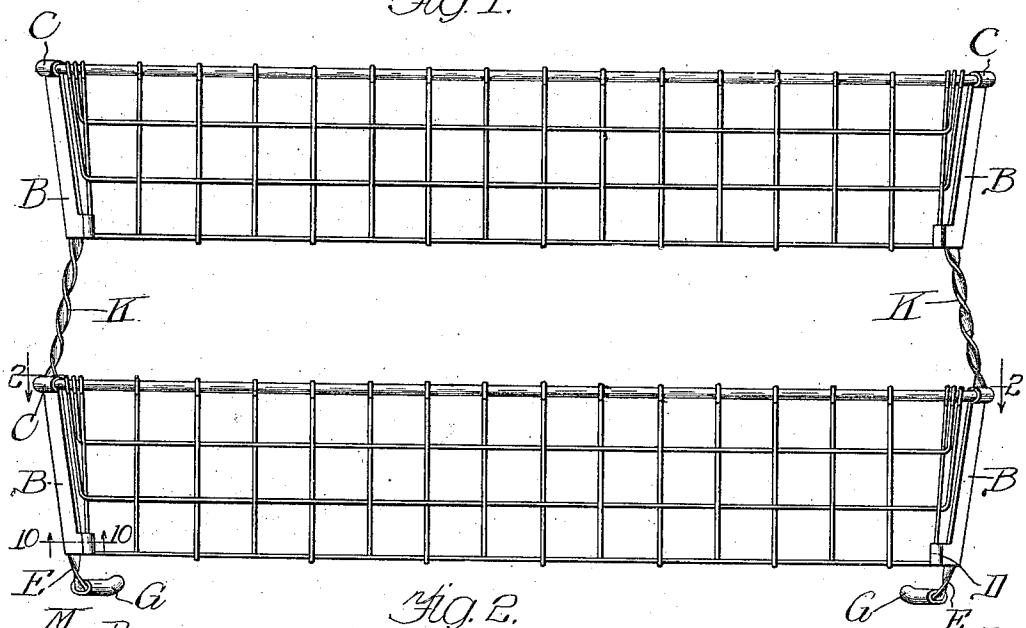
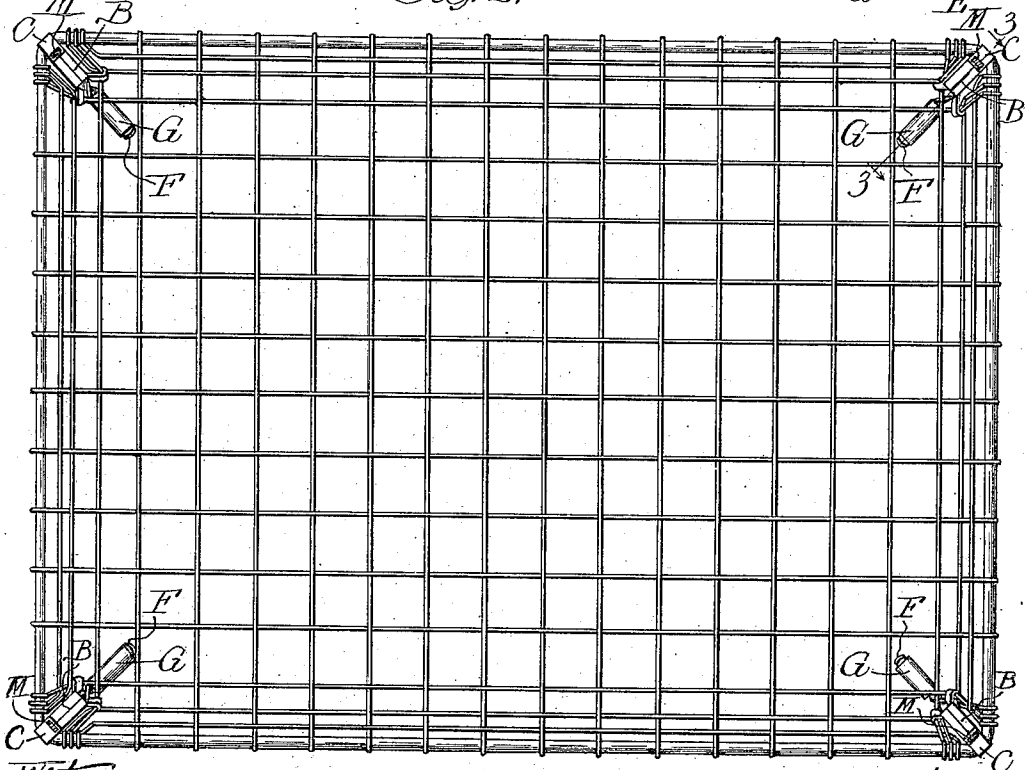


Fig. 2.



Witnesses:
Robert N. Weir
M. M. Boyle

Inventor:
Frank Michael Snyder
By Rudolph Hoffbauer Atty.

F. M. SNYDER.

KNOCKDOWN BASKET.

APPLICATION FILED NOV. 16, 1910.

987,410.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 2

Fig. 3

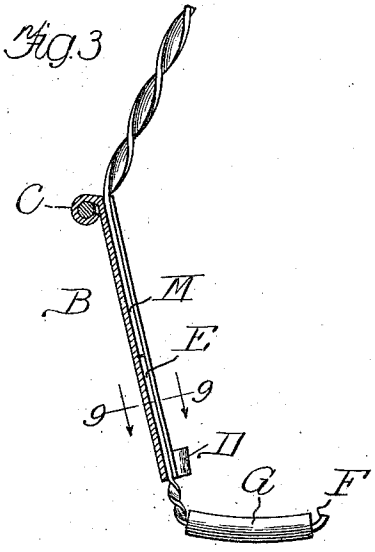


Fig. 4.

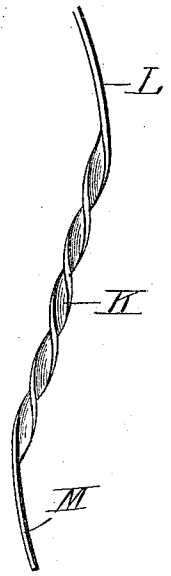


Fig. 5.

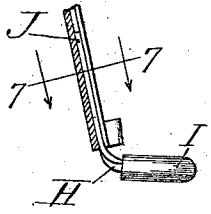


Fig. 8.

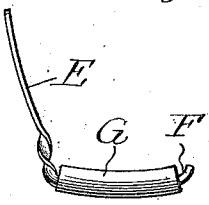


Fig. 10.

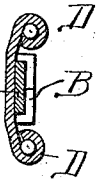


Fig. 6.

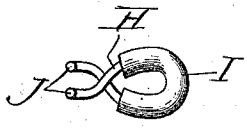


Fig. 9.

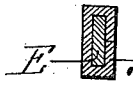


Fig. 7.

Witnesses:
Robert N. Wilcox
M. M. Boyle

Inventor
Frank Michael Snyder
By Rudolph Mc Foy Atty.

UNITED STATES PATENT OFFICE.

FRANK MICHAEL SNYDER, OF LA FAYETTE, INDIANA, ASSIGNOR TO BARBEE WIRE & IRON WORKS, OF LA FAYETTE, INDIANA, A CORPORATION OF INDIANA.

KNOCKDOWN BASKET.

987,410. Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed November 16, 1910. Serial No. 592,747.

To all whom it may concern:

Be it known that I, FRANK MICHAEL SNYDER, citizen of the United States, residing at La Fayette, in the county of Tippecanoe and State of Indiana, have invented certain new and useful Improvements in Knockdown Baskets; 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 wire trays or baskets and has for its object to provide devices of this character which may be employed singly or may be coupled to form what are known as "stack up" trays or baskets.

The invention consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a view in side elevation of a pair of trays or baskets constructed in accordance with my invention and coupled to form what is known as a two-tray basket. Fig. —2— is a horizontal sectional view on the line 2—2 of Fig. —1—. Fig. —3— is a fragmentary detail vertical section on the line 3—3 of Fig. —2— showing the manner of securing supporting feet and extension or coupling members to the baskets. Fig. —4— is a detail view in elevation of one of the coupling members employed. Fig. —5— is a fragmentary detail sectional view showing one form of supporting foot employed. Fig. —6— is a fragmentary detail plan view of said supporting foot. Fig. —7— is a fragmentary detail section on the line 7—7 of Fig. —5—. Fig. —8— is a detail view in side elevation of another form of supporting foot employed. Fig. —9— is a detail sectional view on the line 9—9 of Fig. —3— showing the telescopic interfit between the tubular corner member of the basket and the shank of the supporting foot. Fig. —10— is a detail sectional view on the line 10—10 of Fig. —1—.

The main object of my invention is to provide means whereby a plurality of single baskets or trays may be superimposed and coupled to form stack up baskets or trays containing any desired number of units and which may at will be knocked down and the number of units reduced as desired.

A further object of the invention is to provide simple, durable and efficient means for coupling superimposed trays or baskets which may be easily applied and removed by unskilled persons and which when applied will serve to securely hold the superimposed trays or baskets against separation during ordinary usage.

Each basket or tray A constructed in accordance with my invention is provided in its corners with tubes B rectangular in cross-section and which are secured to the framing in any suitable manner to render them very rigid. Said tubes B are preferably made of sheet metal and are of the "butt-joint" type. One wall thereof is provided with a projection C at one end which is coiled around the upper edge wire of the basket or tray to secure said tube at said point. At the other end of said tube the metal is laterally slitted to provide a projection D at either side of the tube and extending outwardly therefrom, the ends of said projections D being coiled about rising wires adjacent said tube, as shown in detail in Fig. —10—. Each of said tubes B is adapted to receive the shank E of a supporting foot F, the latter being equipped with a covering G of rubber or other suitable material for obvious reasons. The said foot F and its shank E are preferably formed of a flat wire adapted to relatively snugly fit within said tube B. In order to more securely hold said foot engaged with the tube the shank E is bent slightly between its ends, as shown in detail in Fig. —8—, so that when inserted in the tube the end and middle portions of the shank will bear upon opposing walls of the tube and obtain a very strong frictional hold upon the same. This is a well-known expedient and requires no further special description. In place of said supporting feet F made of flat wire and having the flat shank E, feet H may be employed formed of wire bent between its ends to form a loop over which a piece I of rubber tubing or other suitable material is drawn, the end portions of the wire crossing each other and the free end portions thereof being straight and extending parallel with each other to form the equivalent of a flat shank. The position of the shank E or the shanks J of the foot pieces H are made to accord with the inclination, if any, of the tubes B relatively to the plane of the

bottom of the basket or tray. The said trays A are usually and preferably flared, that is, of greater area at their mouths than at the bottom thereof so that the side and end walls thereof are inclined to some extent. Baskets of this shape are more convenient than those having straight parallel side and end walls respectively, for the reason that the contents thereof are more easily removed and in shipping the same they will nest, that is, fit into each other so as to occupy relatively very little space.

In order to form a stack-up tray or basket from a plurality of single trays or baskets I provide supporting members K having parallel end portions L and M disposed at an incline to the middle portion thereof, the angle of inclination of said end portion M to said middle portion being substantially double the angle of inclination of the tube B to vertical lines intersecting the corners of the basket. The said middle portions of said members K are preferably distorted as by twisting the same as shown or otherwise enlarged laterally so as to prevent said middle portions from entering the said tubes B. The end portion M of each of said members is adapted to enter the upper end of one of said tubes B of a lower basket or tray A while the upper end portion L thereof is adapted to enter the lower end of the tube B of an upper basket or tray A, the length of the middle portion of said members K being substantially equal to the depth of one of said baskets (though this may be changed and varied as desired) thus supporting each basket a distance above the next lower substantially equal to its own depth. The said end portions L and M of said members K are slightly distorted for the purpose of causing the same to be held more securely within the tubes B as previously explained in connection with the shanks E of the supporting feet F.

In forming a stack-up basket by means of a plurality of trays or baskets A and members K, four of the latter are first mounted upon the lower basket or tray by inserting the end portions M into the tubular corners B thereof. The end portions L are then inserted into the lower ends of the tubes B of a basket to be supported at the higher elevation. In order to effect this it becomes necessary to slightly spring said members K, as will be obvious, the same resuming their normal positions only after the basket to be supported has attained the intended elevation relatively to the next lower basket or tray. After a plurality of said trays or baskets have been so superimposed and coupled by means of the members A so as to be disposed at respectively different elevations the assembled structure becomes very stiff and not easily separable for the reason that separating strains acting at either end of the structure to force the baskets apart will tend to turn the baskets on the other end portions thereof as fulcrums and the arc of movement of the ends subjected to said separating strain or force will intersect the said end portions M and L or the axes of the tubes B as said ends of said members so that in order to effect separation the strain or force applied must be sufficient to spring and distort said members K as will be obvious. In the event that the assembled structure is raised by grasping the uppermost tray or basket thereof so that the remainder thereof becomes suspended therefrom, the lines of force of gravity acting to separate the trays or baskets will always intersect the end portions L and M as well as the middle portions of said members K and the axes of said tubes B so that said members cannot become separated by such strain or force unless sufficient to spring and distort said members K. The rectangular tubes and flat wires are also advantageous for the reason that relative rotation thereof is impossible and thus said members K when once mounted in position by inserting one end portion thereof into a tube B will retain said position. This renders it very much more convenient to assemble the several units and parts to form a stack-up basket and produce a more rigid structure than would otherwise result.

The advantages derived from my invention are: First: That any desired number of said baskets or trays A may be nested within each other and thus readily packed in very small space for shipment with less liability to injury and distortion *en route* thus greatly decreasing the cost of shipment, packing and other handling. Second: A dealer requires less space for storage of the goods and can at all times meet a demand for a stack-up basket of any desired number of units by building up the same at very little expense of labor or trouble. Third: The advantage to the consumer lies in the fact that he may at any time add to or subtract from an assembled structure of any number of units to meet his needs.

The invention is very simple and efficient.

I claim as my invention:

1. A knock-down basket comprising in combination a plurality of trays or baskets, a tube disposed at each corner of each thereof, and coupling members having angularly and oppositely-disposed substantially parallel end portions adapted to telescopically enter the upper and lower ends of tubes of a lower tray or basket, substantially as and for the purpose described.

2. The combination with trays or baskets each provided in its corners with tubes disposed at an inclination, of coupling members having angularly and oppositely-disposed substantially parallel end portions, said end

portions extending at an angle to the intermediate portion of said members and corresponding in shape with and adapted to enter respectively opposite ends of tubes of superimposed trays or baskets to couple the same and support the higher tray or basket at a given elevation above a lower tray or basket.

3. A wire tray equipped in its corners with polygonal tubes, the end portions of walls of said tubes terminating in projections engaging wires of said tray to secure said tubes therein, and coupling members having angularly-disposed end portions adapted to enter respectively opposite ends of tubes of superimposed trays at respectively opposite end portions to couple the same and support one thereof upon another, the end portions of said members being distorted between their ends to set up a binding action between the said portions and the tubes when mounted in these latter.

4. A wire tray equipped in its corners with tubes disposed at an inclination, the end portions of walls of said tubes terminating in projections engaging wires of said tray to secure said tubes thereto, and coupling members having angularly and oppositely-disposed substantially parallel end portions adapted to enter respectively opposite ends of the tubes to couple the same and support one thereof upon another, said opposite end portions of said coupling members being distorted between their ends and setting up a binding action between said end portions and the tubes when mounted in these latter.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

FRANK MICHAEL SNYDER.

Witnesses:
ALLISON E. STUART,
DAN W. SIMMS.