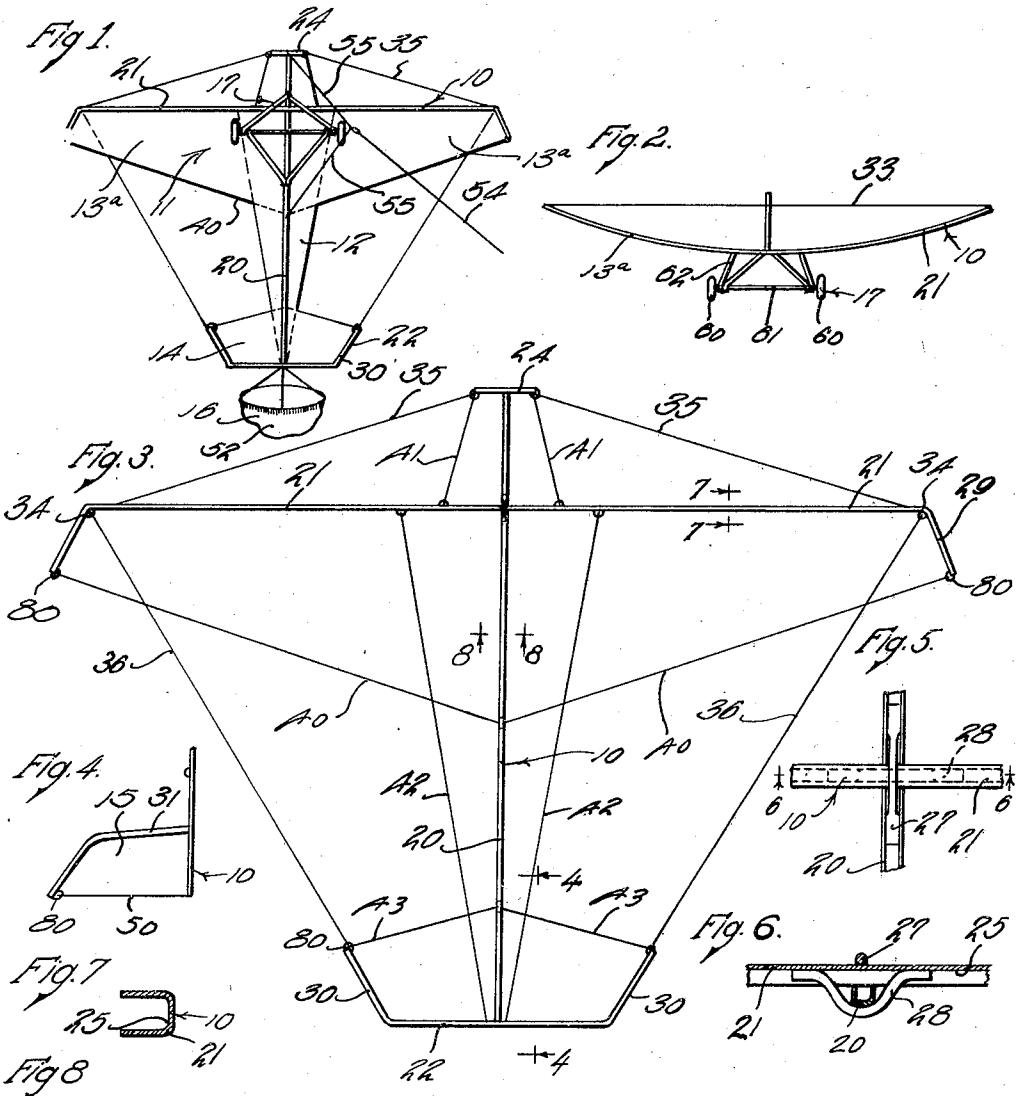
March 15, 1932. F. F. BAKER 1,849,133

KITE

Filed May 26, 1930 2 Sheets-Sheet 1



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March 15, 1932. F. F. BAKER 1,849,133

KITE

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Fig. 12

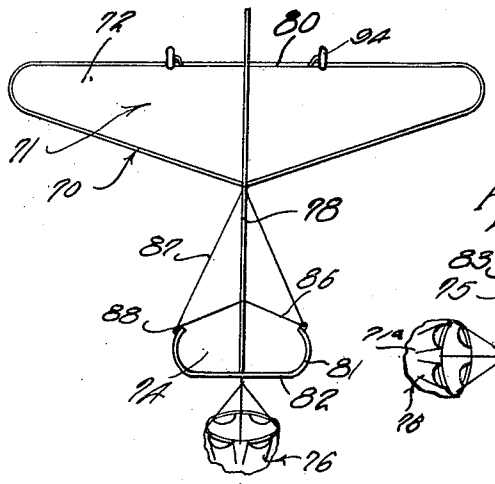


Fig. 13

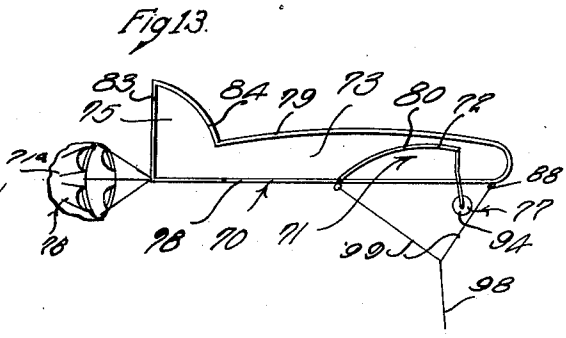


Fig. 14

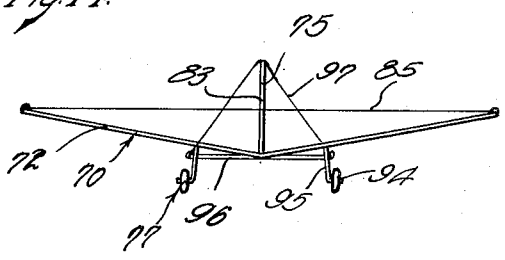
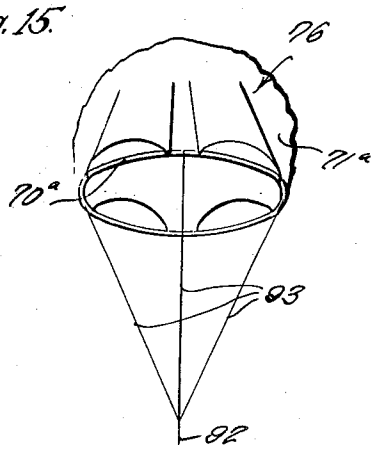


Fig. 15



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KITE

Application filed May 26, 1930. Serial No. 455,516.

This invention relates to a kite and it is a general object of the invention to provide a novel and attractive kite.

It is another object of the invention to provide a frame construction for a kite which is particularly sturdy and capable of withstanding considerable hard usage and which is easily and quickly assembled.

Another object of the invention is to provide a frame construction for a kite which is formed entirely of metal and which may be handled and sold in a knocked-down or disassembled condition.

It is another object of the invention to provide a kite that simulates or has the appearance of a monoplane type of aeroplane.

It is another object of the invention to provide a kite of the character mentioned that is provided with landing gear or landing wheels and that is balanced so that it will glide when brought down to light, or operate on the landing wheels.

It is a further object of the invention to provide a kite of the character mentioned that is particularly simple and inexpensive to manufacture.

Other objects and features of my invention will be best and more fully understood from the following detailed description of a typical form and application of the invention, throughout which description reference is had to the accompanying drawings, in which:

Fig. 1 is a bottom view of one form of the kite. Fig. 2 is a front view of the kite shown in Fig. 1. Fig. 3 is an enlarged plan view of a kite frame provided by this invention. Fig. 4 is a side elevation of a portion of the kite illustrated in Fig. 1, being a view taken substantially as indicated by line 4—4 on Fig. 3. Fig. 5 is an enlarged plan view of a portion of the frame illustrating the manner of connecting the body and wing frame members. Fig. 6 is a vertical detailed sectional view taken substantially as indicated by line 6—6 on Fig. 5. Figs. 7 and 8 are enlarged transverse detailed sectional views of the frame, being views taken as indicated by lines 7—7 and 8—8, respectively, on Fig. 3. Fig. 9 is an enlarged view of the upper or forward portion of the frame. Fig. 10 is a transverse detailed sectional view taken substantially as indicated by line 10—10 on Fig. 9, and Fig. 11 is an enlarged perspective view of the tail or stabilizing element provided by the invention. Fig. 12 is a bottom plan view of another form of the invention. Fig. 13 is a side elevation of the form of the kite illustrated in Fig. 12. Fig. 14 is a front elevation of the kite illustrated in Fig. 12. Fig. 15 is a view of a stabilizing element incorporated in the embodiment of the invention illustrated in Fig. 12.

The kite provided by the present invention includes, generally, a frame 10, covering 11 on the frame providing a fuselage or body 12, wings 13ª, tail 14, and a stabilizing fin or rudder 15, a stabilizing element 16 attached to the end of the tail 14, and landing gear 17.

The frame 10 is in the nature of a framework or supporting structure for the various other parts of the kite. In accordance with the preferred form of the invention the frame 10 is formed entirely of metal. The frame 10 includes a central longitudinal body member 20, a transverse wing member 21, and a tail member 22. The frame members 20, 21, and 22 are formed of wire of channel or U-shaped cross sectional configuration. The cross sectional shape of the frame members is clearly illustrated in Figs. 7 and 8 of the drawings. The frame members 20, 21, and 22 may be formed of channel-shaped wire stock of the same weight or cross sectional dimensions.

The body frame member 20 is the central longitudinal frame part of the construction and is comparatively long, extending from the top or forward end of the kite to its rear end. The body member 20 is arranged so that its open side or channel 23 faces upwardly. A transverse crosshead 24 of channel wire is provided at the forward end of the frame member 20. The crosshead 24 is preferably mounted at the extreme forward end of the body member 20 and projects laterally outward in opposite directions from the member 20. The crosshead 24 is arranged at right angles to the member 20 and is preferably comparatively short. The crosshead

24 may be secured to the member 20 in any suitable manner. In the particular case illustrated in the drawings, the body member 20 is provided at its forward end with a laterally bent or projecting portion 25 extending into the channel of the crosshead 24. The lateral portion 25 may be soldered or welded in the channel of the crosshead 24.

The wing frame member 21 is a comparatively long part arranged transversely of the body member 20. The wing member 21 intersects or crosses the frame member 20 at a point spaced a short distance from the forward end of the body member. The wing member 21 is arranged at right angles to the body member 20 and projects equal distances from opposite sides of the body member. The wing member 21 is arranged so that its open side or channel 25 is faced downwardly and is arranged against the upper side of the body member 20.

The invention provides novel and effective means for connecting the members 20 and 21. A connecting part 27 extends over the wing member 21 and has its ends secured in the channel 23 of the body member 20. The portion of the connecting part 27 extending over the frame member 21 forms a loop or opening through which the wing member 21 may be inserted when the frame is assembled. A connecting part 28 similar to the part 27 is arranged in the channel 25 of the wing member 21 to extend under and engage the part 27. The opposite ends of the connecting part 27 are secured in the channel 25 of the wing member 21 and its central portion is bowed or curved outwardly to receive the part 27. When the frame 10 of the kite is manufactured, the connecting part 28 may have one end secured in the channel 25 and its opposite end may be unattached so that it may be arranged over the body member 20 when the frame is to be assembled. The connecting parts 27 and 28 may be secured in the channels of the frame members in any suitable manner, for example, they may be welded or soldered in the channels of the frame members 20 and 21.

The wing member 21 forms the forward edge of the wings 13 of the kite and the member 21 may be provided at its opposite ends with rearwardly projecting portions 29 to form the ends of the wing. The portions 29 may be integral with the frame member 20 and may project rearwardly and outwardly as clearly illustrated in Figs. 1 and 3 of the drawings.

The tail member 22 is arranged transversely of the body member 20 to project from opposite sides of the body member. The tail member 22 is preferably mounted at the extreme lower or rear end of the body member 20 and is at right angles to the body member and parallel with the wing member. Forwardly projecting end parts 30 are provided at opposite ends of the tail member 22 to form the opposite ends of the tail 14 of the kite. The end parts 30 may project forwardly and outwardly from the central portion of the tail member 20. The tail member 20 may be secured to the body member in any suitable manner. For example, it may be secured to the body member 20 in the same manner as the crosshead 24. The frame 10 is provided with an upwardly projecting rudder member 31. The member 31 projects upwardly from the body member 20 at a point spaced forwardly from the rear end of the body member and its upper end extends upwardly and rearwardly as clearly illustrated in Fig. 4 of the drawings.

Cords or lines may extend between the various parts of the frame 10 to strengthen and lend rigidity to the frame structure. A cord or line 33 connects the opposite ends of the wing member 21. The line 33 is arranged at the upper side of the kite and is stretched tightly so that the wing member 20 is bowed or sprung so that its opposite ends or arms are curved upwardly and outwardly as illustrated in Fig. 2 of the drawings. Rings 34 may be secured in the channel 25 at the opposite ends of the wing member 21 and the ends of the line 33 may be secured or tied to the rings. Cords or lines may connect the various other parts of the frame. In the drawings cords 35 are shown extending between the ends of the crosshead 24, and the rings 34 and cords or lines 36 may extend between the rings 34 and the ends of the portions 30 of the tail member. Rings 80 similar to the rings 34 may be secured in the channels of the various frame members to facilitate connection of the lines or cords with the various parts of the frame.

The covering 11 is provided to offer resistance to the wind or air currents and to give the desired shape and configuration to the kite. The covering 11 may be formed of fabric or paper, it being preferred to form the covering of a light tough paper. If desired, the covering material 11 may be suitably colored or decorated. The covering 11 extends over or covers the lower side of the frame 10. The covering 11 is drawn or arranged between various parts of the frame and cords or lines connecting the various parts of the frame. In the particular construction illustrated in the drawings the covering 11 is arranged between the wing member 21 and lines 40 connecting the portions 29 of the wing member with the body member 20. The covering arranged between the member 21 and the lines 40 forms the wings 13 of the kite. Lines 41 extend between the ends of the crosshead 24 and the wing member 21 and paper may be arranged between the crosshead, the wing member, and the cords to provide the forward portion of the fuselage or body. Lines 42 extend between

the tail member 21 and the wing member 20 to outline opposite sides of the fuselage of the kite. The lines 42 may diverge outwardly and forwardly so that the fuselage 12 is tapering. Lines 43 connect the ends of the parts 30 with the frame member 20 to form the forward edges of the tail 14. A line 50 extends between a ring at the upper or forward end of the rudder member 31 and the body member 20 to outline the forward end of the rudder 15. The covering material 11 may be secured to the various lines and frame members in any suitable manner. For example, the edge portions of the covering material 11 may be folded over the lines and frame members and the overlapping portions may be secured together by glue, mucilage, or other suitable adhesive. In the preferred form of the invention the overlapping portions of the covering 11 encase the various line-carrying rings 80.

The steadying or stabilizing element 16 is secured to a lower or rear portion of the kite to steady the kite and to prevent it from turning or becoming unbalanced. The element 16 is in the nature of a parachute to trap the air currents or wind and offer resistance to swinging or turning of the kite. The element 16 includes an annular member or ring 51 and a pocket 52 of cloth or other suitable material attached to the ring 51. The ring 51 may be formed of wire, or the like, and the pocket 52 is formed of a suitable light material. The pocket 52 is secured to the ring 51 at its periphery and is provided to trap the air currents. The peripheral portions of the pocket 52 may be folded over the ring 51 and stitched together. The element 16 may be secured to the outer end of the rudder member 31 by a plurality of lines 53. The element 16 may be arranged immediately adjacent the rudder 15 or the lines 53 may be made comparatively long so that the element is carried some distance from the kite. The element 16 acts to maintain the kite in its proper position in the air and acts to prevent swinging of the tail portion of the kite.

A line 54 for holding the kite may be secured to the lower side of the kite. The line 54 may have branch cords 55 connected to the body member 20 at spaced points so that the kite is properly positioned and balanced when in the air.

The running or landing gear 17 is mounted on the lower side or face of the kite and includes spaced wheels 60 rotatably mounted on an axle 61. The axle 61 may be connected with the frame 10 by suitable supports or struts 62. The struts 62 may be attached to the body member 20. The wheels 60 are positioned so that they will engage the ground when the kite is brought down, and the kite is formed so that it has a tendency to glide in a substantially horizontal position when pulled down by means of the line 54.

In Figs. 12 to 15, inclusive, of the drawings, I have illustrated a form of the invention characterized by a vertical disposed fuselage. The embodiment of the invention illustrated in Figs. 12 to 15 inclusive, includes, generally, a frame 70, a covering 71 on the frame providing wings 72, a body or fuselage 73, a tail 74, and a stabilizing rudder or fin 75, a stabilizing element 76 attached to the tail of the kite, and landing gear 77.

The frame 70 is preferably formed of metal and is constructed of wire of channel or U-shaped cross sectional configuration. The frame 70 includes a central longitudinal body member 78, a fuselage member 79 outlining the upper edge of the fuselage 73, a main wing member 80 forming the forward edge of the wings 71, rear tail member 81 forming the rear edges of the wings, a tail member 82, and a rudder or fin member 83. The body member 78 extends longitudinally of the kite from one end to the other and constitutes the lower edge of the fuselage 73. The fuselage frame member 79 is provided to outline the upper edge of the fuselage 73 and is arranged over and parallel to the frame member 78. The fuselage member 79 may be curved to provide an attractive outline for the fuselage. The forward end of the fuselage body 79 is curved downwardly and is connected to the forward end of the body member 78. The rear portion 84 of the fuselage member 79 is curved upwardly and rearwardly as clearly illustrated in Fig. 13 of the drawings to form the upper edge of the rudder 75. The rudder member 83 extends vertically between the rear ends of the body member 78 and the portion 84 to provide the rear edge of the rudder 75.

The main or forward wing member 80 is arranged transversely of the body member 78 and is connected to the body member at a point spaced a short distance from its forward end. The frame members 78 and 80 may be connected in the same manner as the members 20 and 21 of the form of the invention described above. The wing member 80 is preferably normal to the body member 78 and constitutes the forward edges of the wings 72. The wing members 81 are provided to form the rear edges of the wings 72 and extend between the body member 78 and the outer ends of the wing member 80. The members 81 are attached to the body members 78 at a point spaced rearwardly from the point of intersection of the members 78 and 80 and the outer portions of the members 81 may be rounded or curved and connected with the opposite ends of the member 80 as clearly illustrated in Fig. 12 of the drawings. The wing members 80 and 81 may extend upwardly and outwardly from the body member

78 so that the wings 72 are inclined or bowed upwardly from the body member as illustrated in Fig. 14.

The tail member 82 is attached to the rear end of the body member 78 and is disposed transversely of the body member. The rear member 82 projects outwardly equal distances from the opposite sides of the body member 78 and the outer ends of the tail member 82 may be curved forward to provide the opposite ends of the tail 75. The various parts of the frame may be secured together in any suitable manner, for example, they may be soldered or welded together. The frame 10 may be suitably strengthened and braced by lines or cords connecting its various parts. A line 85 extends between the opposite ends of the forward wing member 80. The line 85 is made tight to retain the wings in their proper inclined positions. Lines 86 may connect the ends of the tail member 82 with the body member 78 to form the forward edges of the tail 75. Strengthening lines 87 may extend between the ends of the tail member 82 and spaced points along the body member 78 to reinforce the construction. Rings 88 may be provided to carry ends from the various lines or cords, and the rings 88 may be arranged in the channel of the various frame members in the manner described above.

The covering 71 is arranged on the frame 10 to offer resistance to the air currents and to give the desired shape to the kite. The covering 71 may be of paper or suitable material and may be colored or decorated as desired. The covering 71 is drawn or arranged between the body member 78 and the fuselage member 79 to provide the vertically disposed fuselage 73 and rudder 75. The covering material 71 is arranged between the wing members 80 and 81 to form the wings 72 and between the tail members 82 and the lines 86 to form the tail 74.

In accordance with the broader principles of the invention the covering material 71 may be secured to the various frame members in any suitable manner, for example, the edge portion of the covering may be folded over the various parts of the frame and may be secured to the main portions of the covering by glue, mucilage, or the like.

The stabilizing element 76 is attached to the tail or rear portion of the kite to steady the kite when in operation. The stabilizing element 76 is similar generally to the element 16 described above, and includes a ring 70^a of wire, or the like, a pocket 71^a formed of cloth or other suitable material. In the particular form of the invention illustrated in Figs. 12, 13, and 15, the material 91 is attached to the ring 90 at spaced points only. The stabilizing element 76 is attached to the kite by a line or cord 92 connected to the end of a frame member 78. A plurality of branch lines 93 may connect the line 92 with the ring 70^a. The pocket 71^a is adapted to catch or trap the air currents to provide a relatively fixed element to stabilize the kite in the air.

The landing or running gear is provided at the lower or under side of the kite and includes two spaced wheels 94 rotatably mounted on the lower ends of struts or supports 95. The supports 95 may project downwardly from the wing member 80 and may be reinforced by a transversely arranged reinforcing member 96. Lines or cords 97 may extend from the opposite ends of the reinforcing member 96 to the fuselage frame member 79 to strengthen the construction. The wheels 94 are positioned so that they strike or engage the ground when the kite is brought down.

A line or cord 98 may be employed for carrying or holding the kite. The line 98 may have branch cords 99 connected to the body member 78 at longitudinally spaced points. It will be obvious that the cords 99 may be adjusted so that the kite will be properly positioned and balanced when in the air.

It is to be noted that the kite provided by this invention is particularly attractive in appearance and incorporates features resembling aircraft. The frame 10 is constructed so that the wing member 21 and the body 20 may be easily and quickly assembled. The frame 10, being formed of channel wire, is particularly strong and is sufficiently flexible to provide for the efficient operation of the kite. The stabilizing element 16 offers considerable resistance to the air currents so that it operates as a relatively stationary member to prevent swinging and turning of the kite. The stabilizing element 16 is attractive in appearance and replaces the elongated cloth tail commonly employed on kites.

Having described only a typical preferred form of my invention, I do not wish to limit myself to the specific details set forth, but wish to reserve to myself any changes or variations that may appear to those skilled in the art or fall within the scope of the following claims.

Having described my invention, I claim:

1. A kite including, a body frame member of U-shaped cross sectional configuration, a transverse wing frame member of U-shaped cross sectional configuration, means connecting the two frame members including, a connecting part in the channel of one frame member extending over and engaging the other frame member, and covering on the frame members.

2. A kite including, a body frame member of U-shaped cross sectional configuration, a transverse wing frame member of U-shaped cross sectional configuration, means connecting the two frame members including, a connecting part in the channel of one frame member extending over and engaging the other

frame member, a connecting part in the channel of the other frame member extending over and engaging the first-mentioned connecting part, and covering on the frame members.

3. A frame for a kite including, a body nember having a longitudinal channel, a wing member extending transversely of the body member having a longitudinal channel, and means connecting the two members including a part having its ends secured in the channel of one member and extending transversely across the other member.

4. A frame for a kite including, a body member having a longitudinal channel, a wing member extending transversely of the body member having a longitudinal channel, and means connecting the two members including a part having its ends secured in the channel of one member and extending transversely across the other member and a part having its ends mounted in the channel of the said other member and extending over the first-mentioned part.

5. A kite including, a frame structure of members having longitudinal channels including a body member, a wing member extending transversely of the body member, and a tail member at one end of the body member extending transversely of the body member, lines extending from the ends of the wing member to the body member, the lines and wing member outlining wings, lines extending between the ends of the tail member and the body member, the said lines and tail member outlining a tail, and lines or channels extending between the wing member and the tail member outlining a fuselage, and a covering between the lines and the members.

6. A monoplane kite including, a longitudinal body member, a wing member attached to the body member and extending transversely thereof, a tail member at the rear end of the body and extending transversely thereof, the said members being of U-shaped cross sectional configuration, lines and covering attached to the members to represent a fuselage, a wing, and a tail, and landing gear including support members of U-shaped cross sectional configuration depending from the body member and wing member, and spaced rotatable wheels carried by the support members, the body member, the wing member, and the said support members being of resilient material to take up landing shocks.

7. A monoplane kite including, a longitudinal body member, a wing member attached to the body member and extending transversely thereof, a tail member at the rear end of the body and extending transversely thereof, the said members being of U-shaped cross sectional configuration, lines and covering attached to the members to represent a fuselage, a wing, and a tail, and landing gear including support members of U-shaped cross sectional configuration depending from the body member and wing member, and spaced rotatable wheels carried by the support members, the body member, the wing member, and the said support members being of resilient steel and being connected and related so as to mutually take up landing shocks.

In witness that I claim the foregoing I have hereunto subscribed my name this 19th day of May, 1930.

FRIEND F. BAKER.