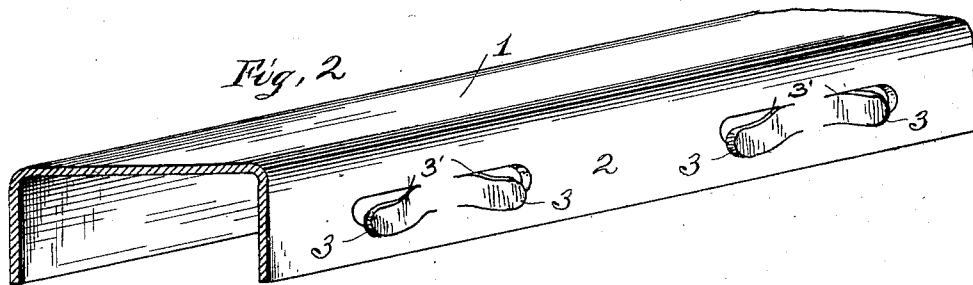
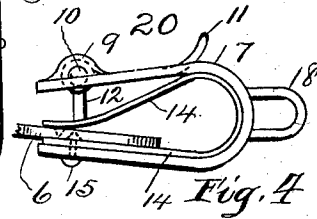
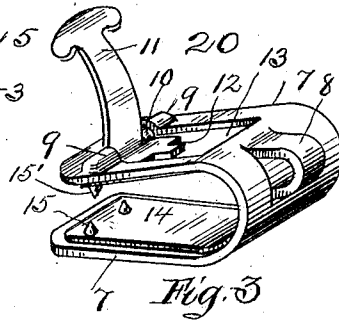
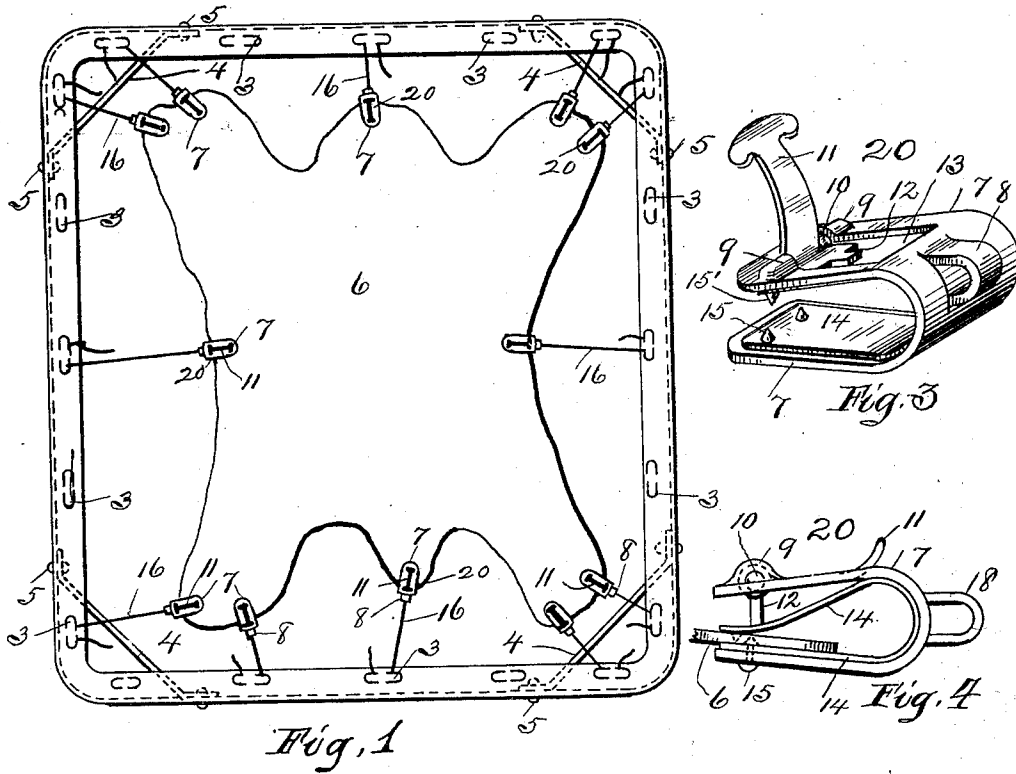


No. 707,559.

Patented Aug. 26, 1902.

H. Y. B. DUFF.  
HIDE SECURING APPARATUS.  
(Application filed Dec. 30, 1901.)

(No Model.)



Witnesses:  
W. J. Fawcett,  
J. F. Cullen.

Inventor,  
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By Richard D. Harrison,  
his Attorney

# UNITED STATES PATENT OFFICE.

HUGH Y. B. DUFF, OF CHESWICK, PENNSYLVANIA.

## HIDE-SECURING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 707,559, dated August 26, 1902.

Application filed December 30, 1901. Serial No. 87,701. (No model.)

*To all whom it may concern:*

Be it known that I, HUGH Y. B. DUFF, a citizen of the United States, residing at Cheswick, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Hide-Securing Apparatus, of which improvement the following is a specification.

This invention relates to improvements in apparatus for securing hides while undergoing the process of drying, enameling, and japanning.

In the art of manufacturing enameled or japanned leather the hide to be treated is stretched and secured within a wooden frame and the surface thereof treated to several coats of the enameling or japanning medium, each of said coats being separately dried in a kiln at a temperature approximating 150° Fahrenheit. The above-mentioned frames being of wood and subjected to almost constant heat become so warped and out of order in a short time as to become practically useless, necessitating being replaced by new frames, which is not only a constant source of annoyance, but increases the cost of leather production. Furthermore, it is customary in the process of manufacturing said enameled or japanned leathers to perforate the edges thereof to string the same to the frame, which edges, being thus damaged, decrease the profits.

The object of my invention is to provide a frame which will be practically indestructible and means therewith for securing the hide in position without damage thereto, together with certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a plan view of my apparatus, showing the application of a hide thereto. Fig. 2 is an enlarged perspective view of a portion of the frame. Fig. 3 is a perspective view of one of the clips as employed to secure the hide, said clip being shown in its open or non-engaging position. Fig. 4 is a side view of the same, showing the clip closed and engaging the hide.

To put my invention into practice, I provide a metal channel-bar 1 of suitable length and depth and bend the same into the form of a rectangle, the corners of which I brace

by means of diagonally-disposed bars 4, attached to the web thereof by means of rivets 5. Along the flanged edges of said frame are formed a series of tongues 3, arranged in pairs and disposed in opposite directions and presenting inclined engaging edges 3' at their rear or integral ends.

To engage the hide and connect the same to the frame, I employ a plurality of spring-clips 20 and connect the same to the tongues of the frame by means of cords 16, passed thereabout to engage the edges 3'. I have shown a form of spring-clip which is admirably adapted for this particular apparatus, consisting of a U-shaped frame 7, having an outwardly-extending eye portion 8 to connect the cord therewith, said frame having an opening 13 in its upper portion, at the forward end of which are formed the bearings 9. Fitted into this frame and secured to the lower portion thereof by the conical-headed rivets 15 is flat spring 14, carrying near its upper outer end the spurs 15'. A lever 11, having a right-angular extension 12 upon its forward end to engage said spring, is mounted in the bearings of said frame by means of a small shaft 9.

In operation the clip-levers are pulled up, as illustrated at Fig. 3, and slipped over the edges of the hide 6 at the most convenient points, after which the lever is forced down to cause the ends of the spring to engage the hide, as illustrated at Fig. 4. The ends of the cords 16 are then passed around the frame-tongues and drawn taut to stretch the hide and cause said cords to be engaged in the corners 3', which corners will owing to their inclination and square edges effectually prevent said cords becoming slack when once in position. A coat of enameling or japanning medium is then applied to the surface of the leather and the apparatus placed in the kiln to dry, after which, if the hide should expand, the slack occasioned thereby may easily be taken up and again made taut by adjusting more or less of the cords by disconnecting and again connecting the same at the tongues, as heretofore set forth. The operation of coating and heating is repeated until the desired finish is attained. By means of these frame-tongues and cords the most minute adjustment is attained, and no knots

are required on the cords to insure a grip, thereby saving time and labor. Furthermore, the frame is capable of maintaining its usefulness for an indefinite period, besides a saving of leather is effected by the use of spring-clips.

Various modifications may be made in the detail parts of the apparatus without departing from the spirit of my invention, such as the employment of differently-constructed clips for those shown, substituting the cords for equivalent means, or attaching the tongues to the frame instead of forming them integral. Therefore I do not confine myself to the exact construction herein shown and described.

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

1. An apparatus for the purpose set forth, comprising in combination a metal frame, a plurality of hide-engaging clips, having flexible extensions, and means for adjustably connecting said clip extensions with said frame.
2. An apparatus for the purpose set forth,

comprising in combination a metal frame, a plurality of spring hide-engaging clips provided with flexible extensions, and means carried by said frame to adjustably engage said clip extensions.

3. An apparatus for the purpose set forth, comprising in combination a metal frame having fasteners on one side thereof, and hide-engaging clips provided with flexible extensions to adjustably engage with said frame-fasteners.

4. An apparatus for the purpose set forth, comprising in combination a metal frame having a series of fasteners on one side thereof each consisting of two oppositely-inclined tongues, and a plurality of spring hide-engaging clips having flexible extensions to engage said frame-tongues.

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

HUGH Y. B. DUFF.

In presence of—

E. C. CHAMBERLAIN,  
JOHN T. DUFF.