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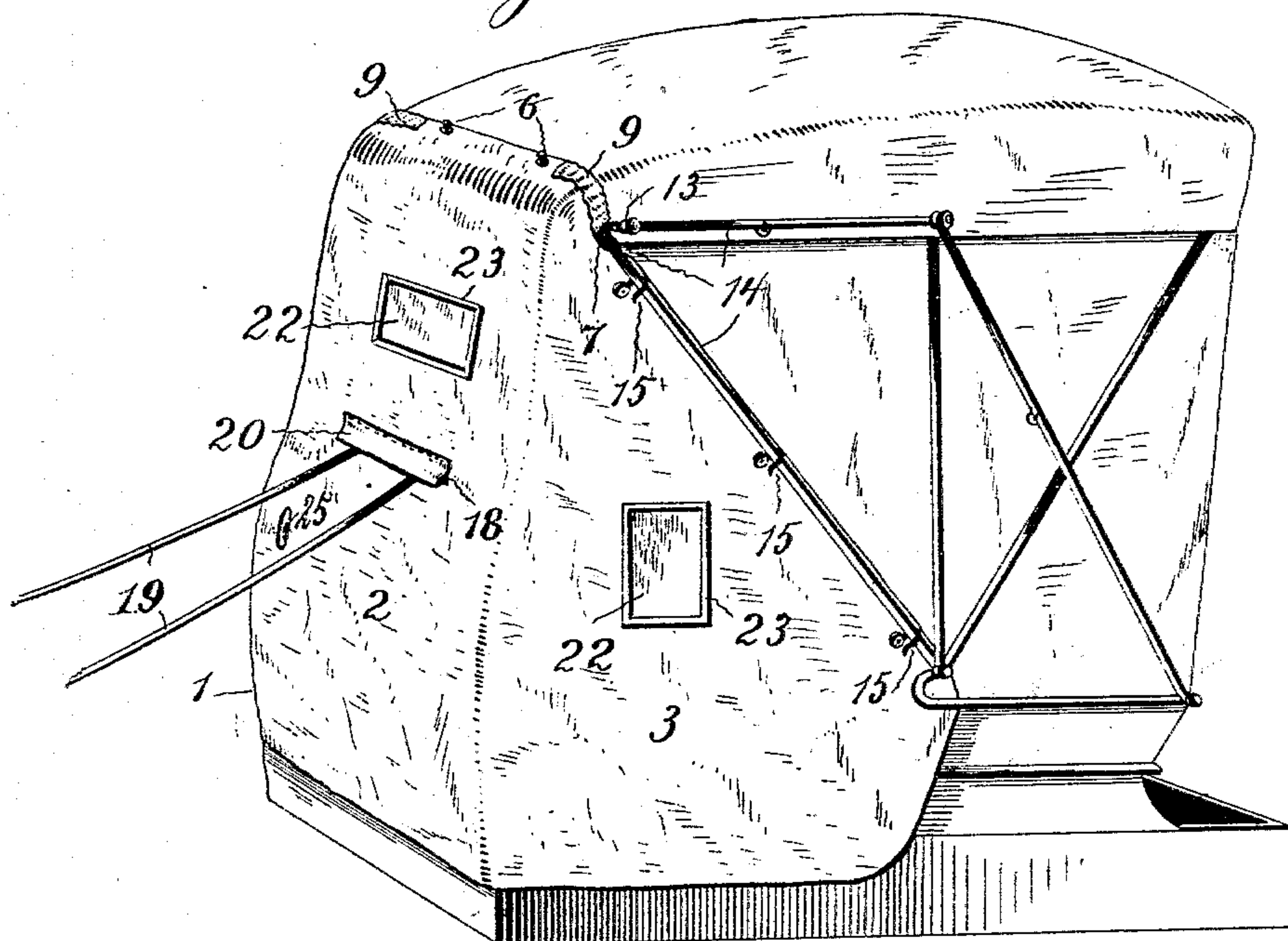
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J. E. WRIGHT & T. L. CURLEY.  
CARRIAGE APRON.

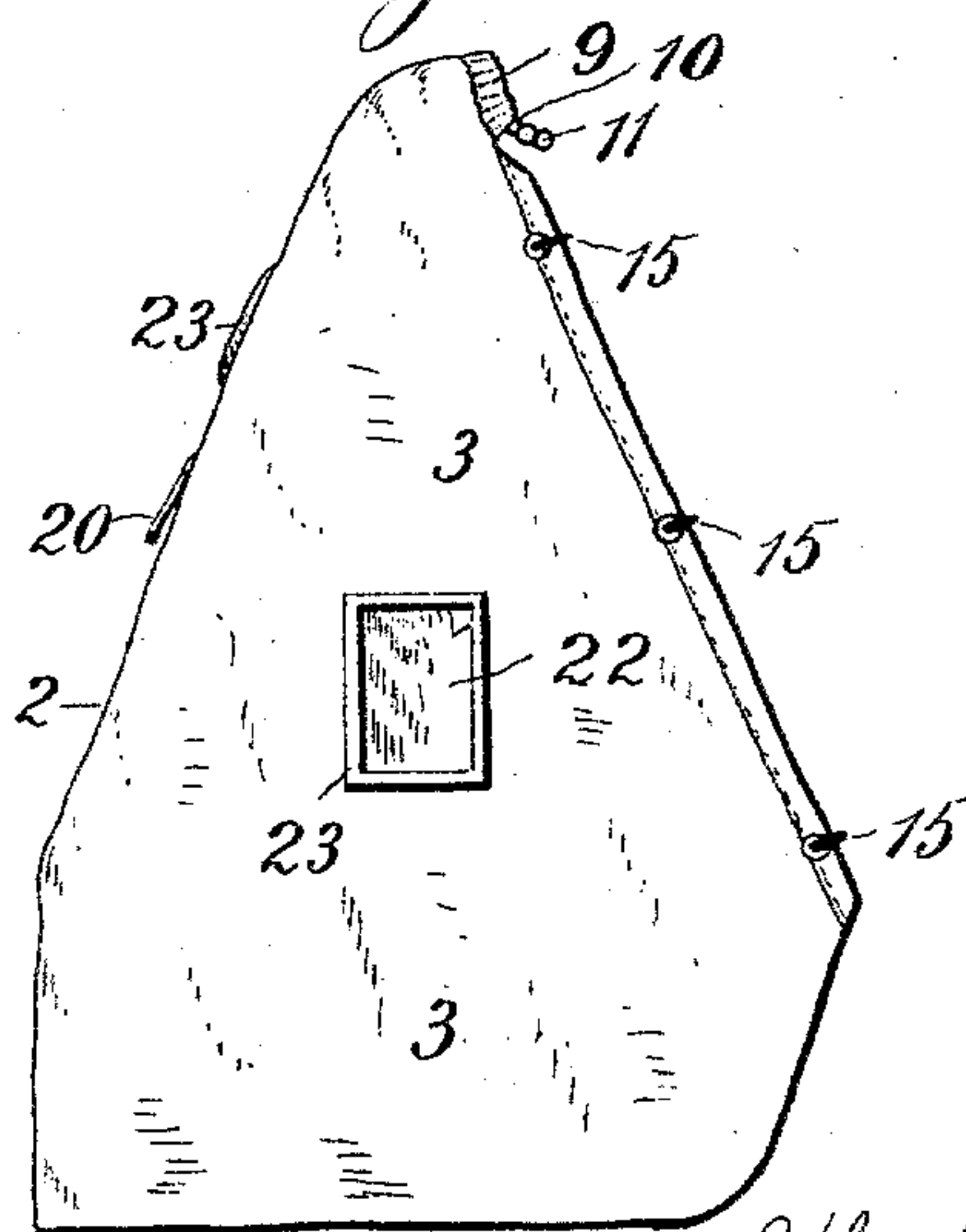
No. 561,749.

Patented June 9, 1896.

*Fig. 1.*



*Fig. 2.*



Witnesses:

James Hutchinson.  
Geo. W. Rea.

Inventors

John E. Wright & Thomas L. Curley.  
By James L. Norris.  
Attorney

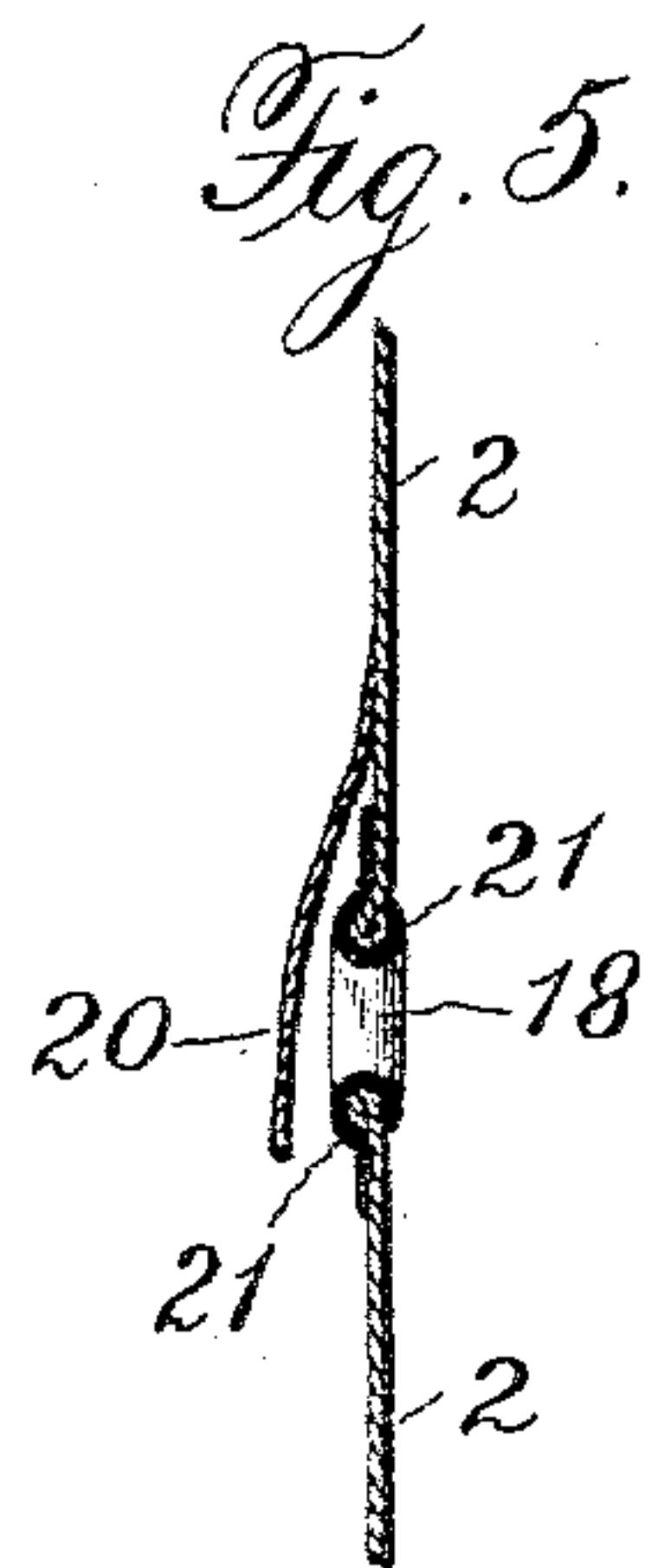
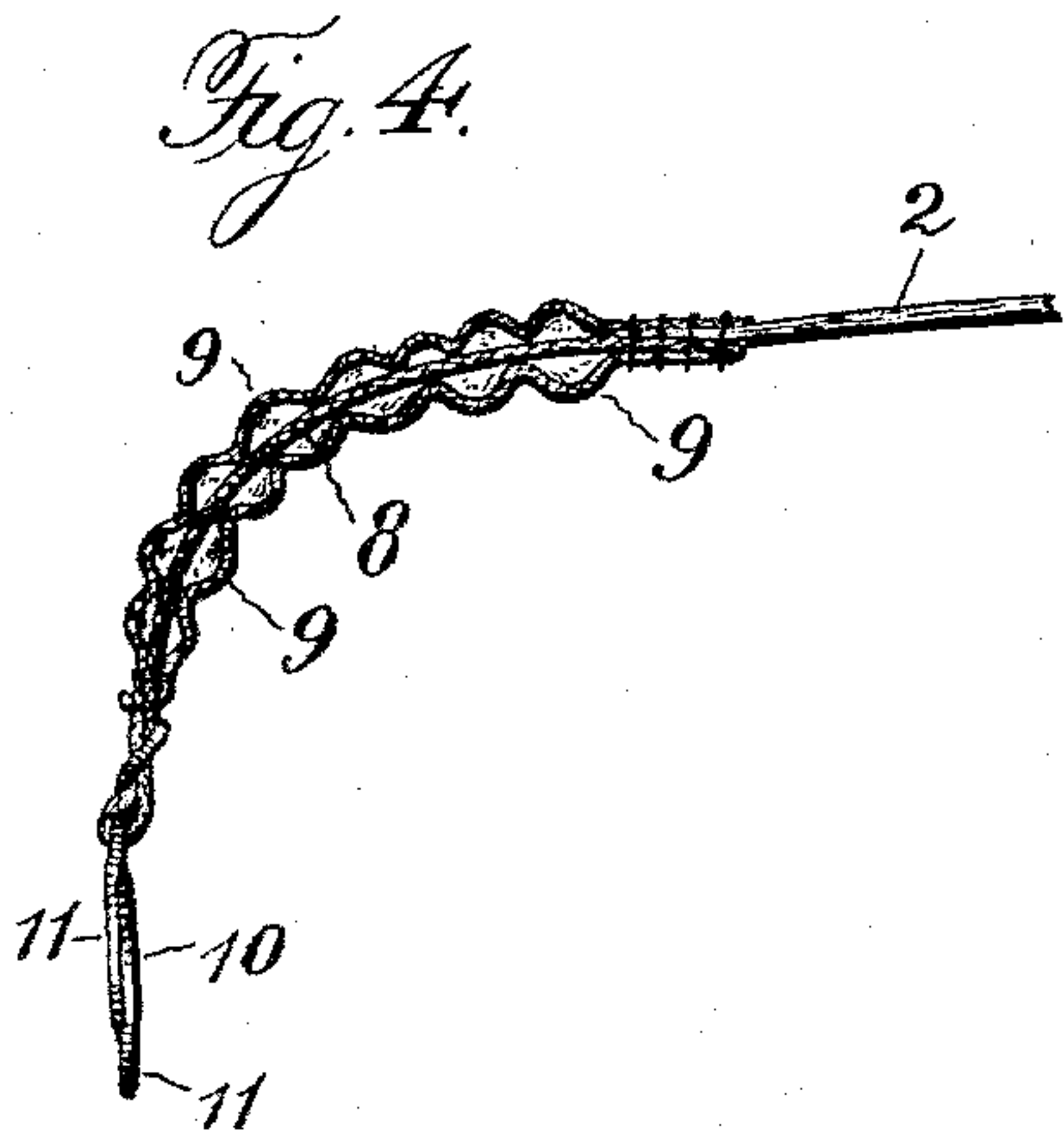
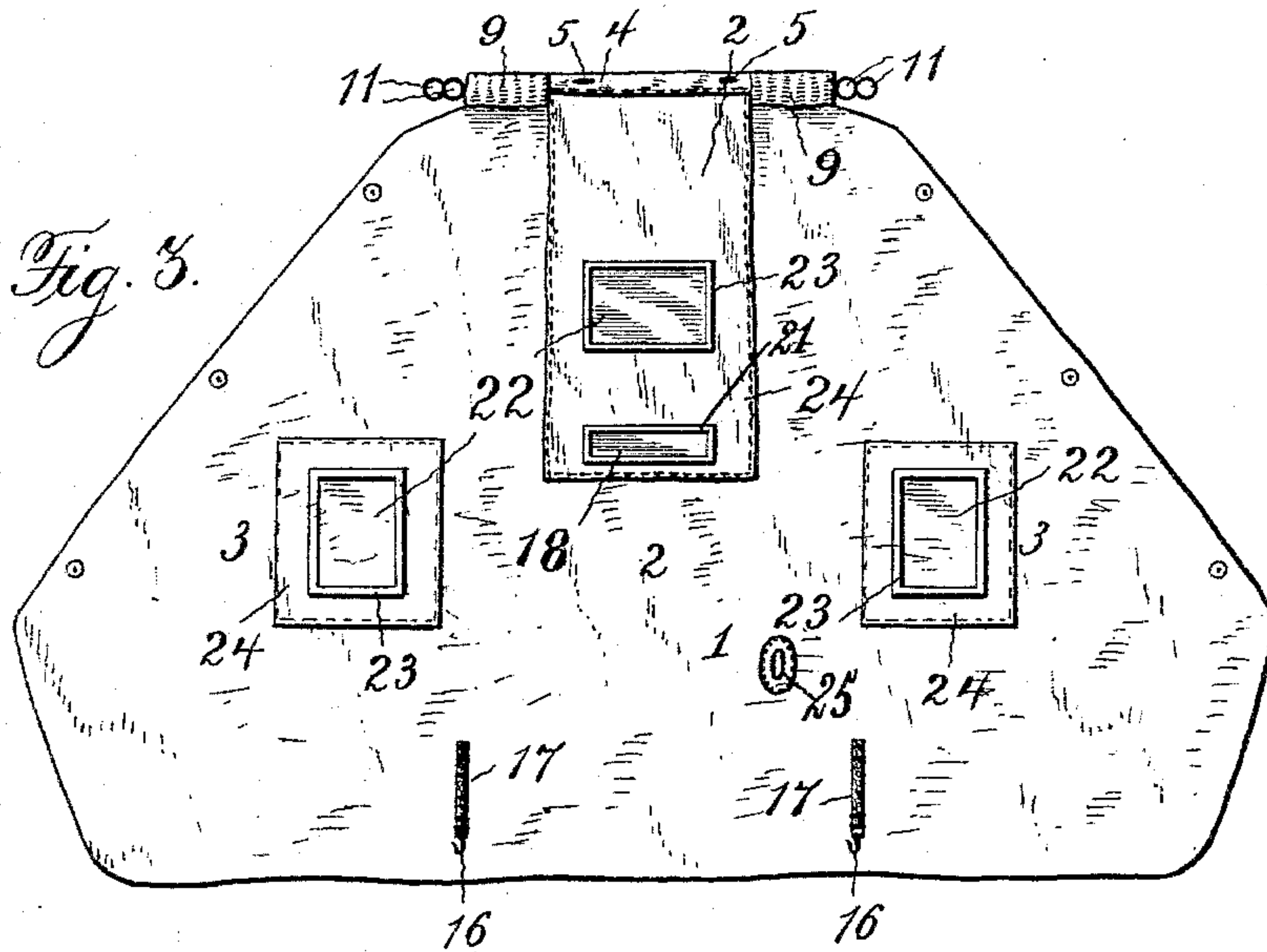
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# UNITED STATES PATENT OFFICE.

JOHN E. WRIGHT AND THOMAS L. CURLEY, OF HAMILTON, OHIO.

## CARRIAGE-APRON.

SPECIFICATION forming part of Letters Patent No. 561,749, dated June 9, 1896.

Application filed January 30, 1896. Serial No. 577,428. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN E. WRIGHT and THOMAS L. CURLEY, citizens of the United States, residing at Hamilton, in the county of Butler and State of Ohio, have invented new and useful Improvements in Carriage-Aprons, of which the following is a specification.

It is the object of our invention to provide an improved construction of storm-apron for vehicles, whereby the apron is conveniently adapted for ready and accurate fitting to carriage-tops of any ordinary size to effectually close the otherwise open front of the same, exclude rain, snow, sleet, and wind and protect the occupant of the vehicle from inclement weather.

One of the principal purposes of our invention is the provision at the top of the apron of elastic webbings, adapted to permit a close fitting of the apron-top over the front portion of the carriage-top at the bends or corners of the usual front bow irrespective of the width of said bow and carriage-top within ordinary limits.

Other objects of the invention will hereinafter appear in the arrangement and adaptation of means for quickly and conveniently attaching and detaching the storm-apron and securing its ready fitting to variously-sized top-carriages.

The invention consists in features of construction and novel combinations of the parts of a storm-apron for vehicles, as hereinafter more particularly described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a perspective of the upper part of a vehicle with our improved storm-apron applied. Fig. 2 is a view of the apron detached. Fig. 3 is a plan of the inner side of the apron when detached and spread out. Fig. 4 is a detail sectional view at one of the shirred upper corners of the storm-apron with elastic webbing and fastening device. Fig. 5 is a detail sectional view at the opening for passage of driving-lines.

Our improved storm-apron 1 may be composed of any suitable waterproof material, preferably rubber cloth or drilling, though other appropriate fabrics may be employed. The main body of the apron is preferably made in a single piece comprising a central

or front portion 2 and the side flaps 3, and, as shown in the drawings, its lower portion may be of greater width than the top portion for adaptation to the usual form of sulky-top vehicle. The precise form of the storm-apron is not, however, essential, but may depend somewhat on the character of the vehicle for which it is intended and yet be readily adapted to carriage-tops of varying sizes. In Figs. 1, 2, and 3 is shown the preferred form of storm-apron for vehicle-tops having the usual forwardly-inclined front bow, the upper and lower edges of the apron being substantially parallel and the side edges being inclined rearward and downward nearly to the bottom of the apron and then vertically thereto, preferably connecting with the lower edge by rounded corners.

The top and side edges of the storm-apron are reinforced, preferably by a leather strip 4, though the apron may be hemmed, if desired. In the top edge of the apron are buttonholes or eyelets 5 to engage buttons or headed studs 6 on the top or transverse portion of the usual front bow 7 of the carriage-top.

At each end of the upper apron edge there is secured to the inner side of the apron an elastic webbing 8, that adapts the upper portion of the apron for close fitting onto the bends of a front bow, that may be of any width within the usual or ordinary limits of variation in sizes of carriage-tops. The elastic webbing 8 and adjacent portion of the apron are covered by a shirring 9, of leather or other suitable reinforcing fabric, that will greatly strengthen these parts, impart a finish thereto, and facilitate a neat and convenient fitting of the storm-apron to carriage-tops of different dimensions. To the outer ends of the elastic webbings 8 are secured catches 10, preferably comprising a number of loops 11, either of which may engage a knob 12 on a side curtain of the carriage-top or a knob or projection 13 on the prop 14, with which most vehicle-tops are provided. By means of the elastic webbings 8 and shirrings 9 there is secured an accurate and neat fitting of the top apron edge onto carriage-tops of any usual range in width, while the elastic webbings and catches 10 thereon, each provided with a series of loops 11, will afford ready



and convenient means for quickly and detachably securing this portion of the apron to the carriage-top with a suitable variation of adjustment to the size of the vehicle.

5 To the inclined side edges of the storm-apron are attached hooks 15 for engaging the upright portions or sides of the front bow 7, and the said hooks are preferably rubber, covered to obviate marring the surface of the  
10 bow.

The lower portion of the apron is held in position by means of hooks 16, attached to the lower ends of elastic straps 17, the upper ends of which are secured to the inner side  
15 of the apron at a suitable distance above its lower edge. On attaching the apron to a vehicle the lower portion of the apron is allowed to drop over and in front of the dashboard, but with the hooks 16 and straps 17 inside the  
20 vehicle, and the said hooks are then engaged with the usual foot rail or rod, with which most light vehicles are provided, or in the absence of a foot-rail there may be provided any suitable catch device—such as a button,  
25 screw-eye, or the like—to afford a point of engagement for the hooks 16. It will be observed that the hooks 15 and 16 are readily accessible from the inside of the vehicle. By disengaging from the bow 7 the hooks 15 of  
30 either side flap that portion of the apron can be turned aside to permit entering and leaving the vehicle, and the occupant of the carriage can easily adjust and fasten the apron so as to exclude rain, snow, and wind.

35 There is provided in front of the apron an opening 18, for the reins or driving-lines 19 to pass through, and to the outside of the apron above said opening is attached a flap 20 to prevent rain and snow from drifting in.  
40 For the purpose of relieving any strain or wear on the edges of the apron material surrounding the rein-opening 18, there is provided a frame or rim 21, that may be composed of any suitable material, preferably  
45 metal. The frame or rim 21 is rigid or substantially so, and may be constructed and applied in any appropriate manner. Its purposes are to reinforce and prevent tearing out of the apron material surrounding the open-  
50 ing 18, and to render the margin of the same sufficiently rigid to afford some support for the driving-lines without sagging of the opening or impairing the permanence of its form, as would be liable to occur without the pro-  
55 vision of a reinforcing rim or frame.

In the front and sides of the storm-apron are glazed sight-openings 22, for each of which a frame 23 is provided.

On the inner side of the apron, adjacent to each of the several openings, it is preferable 60 to provide reinforcing 24 of any suitable fabric. At a suitable point in the apron there may be provided a reinforced opening 25 for passage of a whip-socket on or adjacent to the dashboard of the vehicle. 65

What we claim as our invention is—

1. A storm-apron having its upper edge provided, at opposite ends, with elastic webbings and shirred coverings or reinforcements, whereby the said upper edge of the 70 apron is adapted to fit over the bends or corners of a front bow of variously-sized carriage-tops, the said elastic webbings being provided with catches to adjustably engage fastenings on the carriage-top, and the said apron being 75 provided on its bottom and side portions with other fastenings for detachable connection of the apron to a vehicle, substantially as shown and described.

2. A storm-apron having parallel upper 80 and lower edges and inclined side edges, the said upper and side edges being reinforced and provided with fastenings for detachable engagement with a vehicle-top, elastic webbings at the ends of the upper apron edge to 85 permit fitting of said edge over the bends or corners of the front bow of the vehicle, irrespective of its width, shirred coverings for said webbings, and means for detachably securing the lower portion of the apron at the 90 inner side of the dashboard, substantially as shown and described.

3. A storm-apron provided with glazed sight-openings, a rein-opening having a rigid 95 frame or rim to protect the edges of said opening and afford support for the driving lines or reins, elastic webbings at the ends of the upper apron edge to permit adjustable fitting thereof to carriage-tops of varying 100 width, fastenings secured to the ends of said elastic webbings and adapted for adjustable engagement with fastenings on the carriage-top, other fastenings on the top and side edges of the apron, and elastic straps secured to the 105 inner side of the apron above the lower edge and provided with hooks adapted to engage the foot-rail on the inner side of the dashboard, substantially as shown and described.

In testimony whereof we have hereunto set our hands in presence of two subscribing 110 witnesses.

JOHN E. WRIGHT.  
THOMAS L. CURLEY.

Witnesses:

CHAS. J. PARRISH,  
ROBT. E. GREENAMYER.