

No. 637,280.

Patented Nov. 21, 1899.

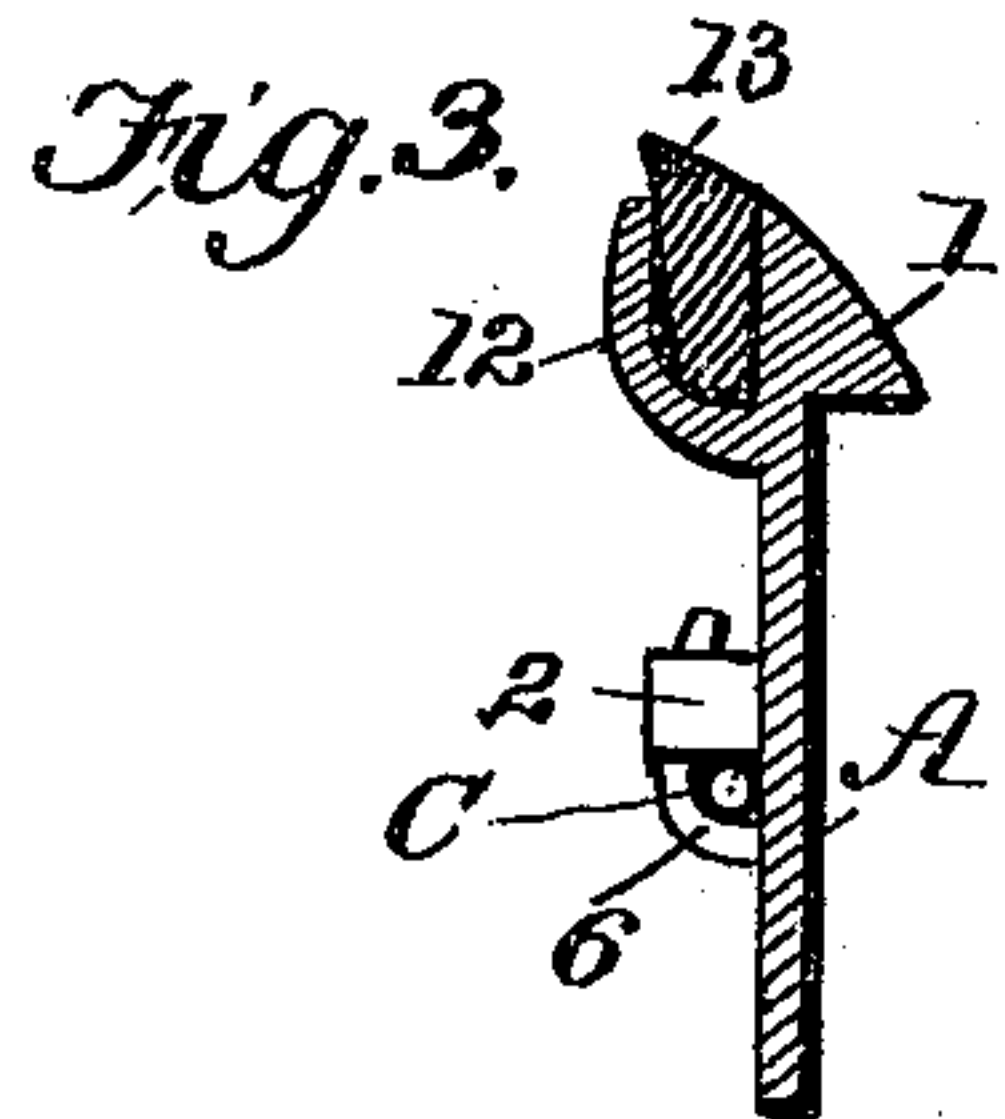
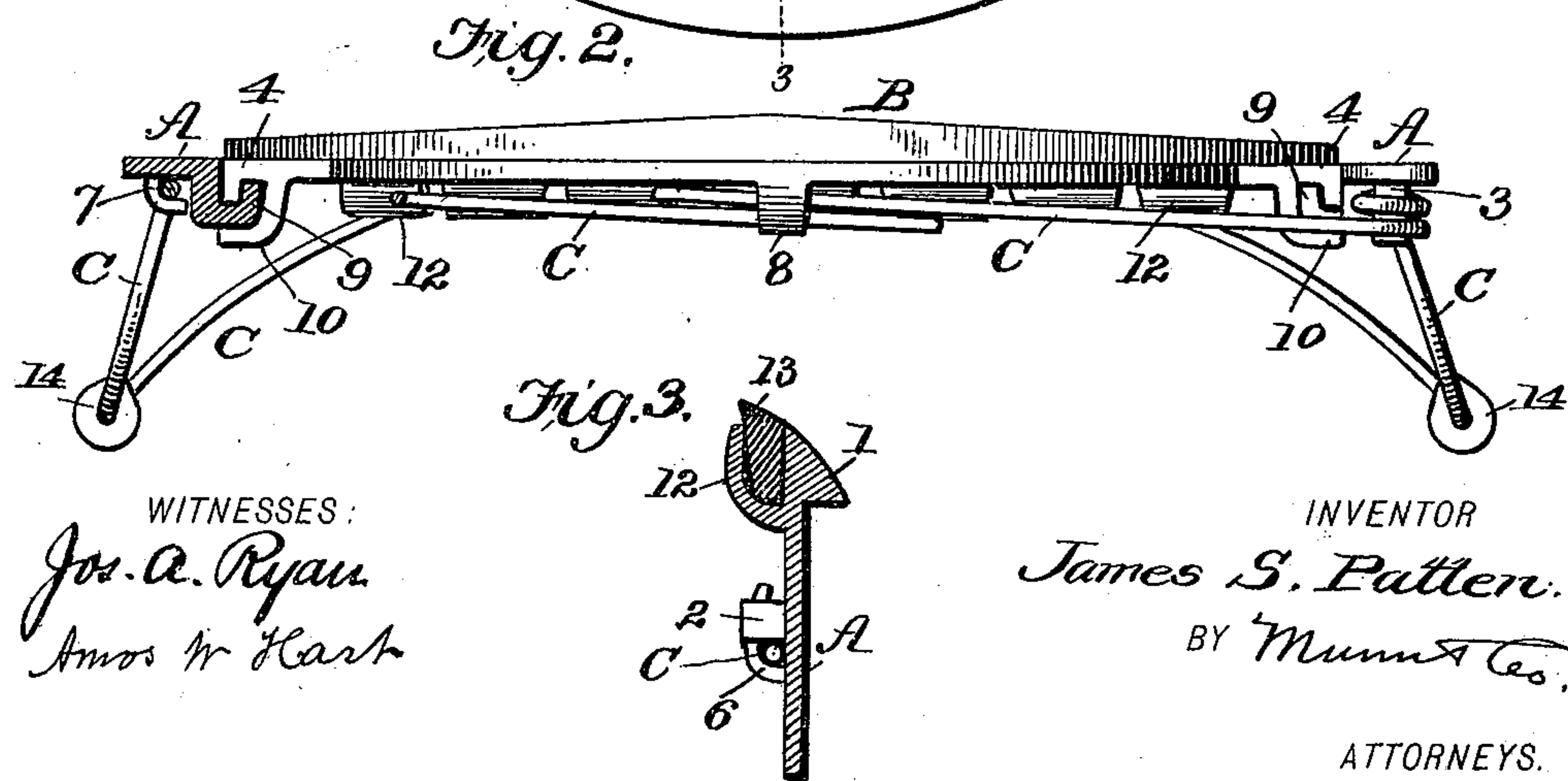
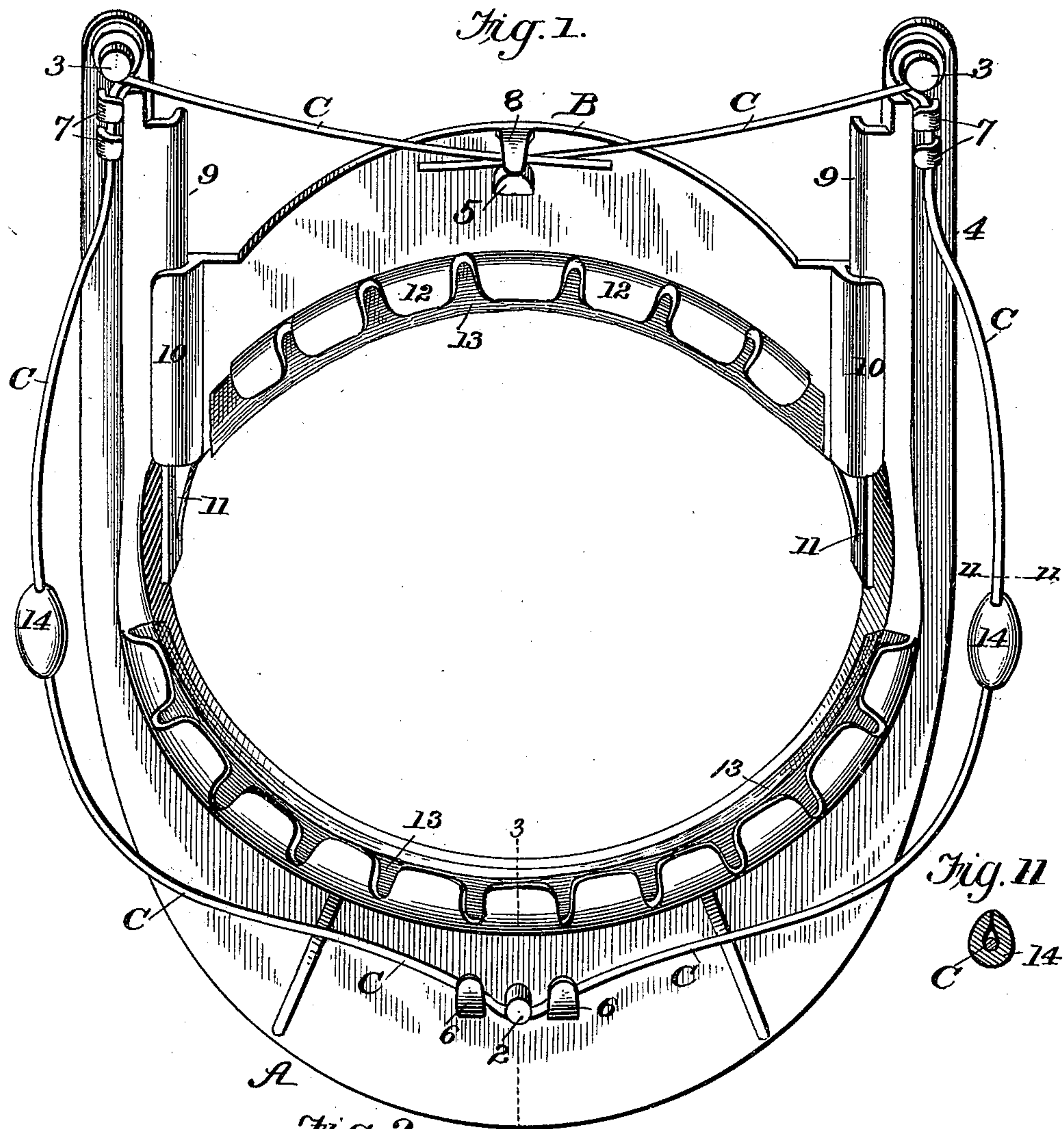
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GUARD FOR CAR AXLE BOXES.

(Application filed Mar. 9, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
Jos. A. Ryan.
Amos W. Hart.

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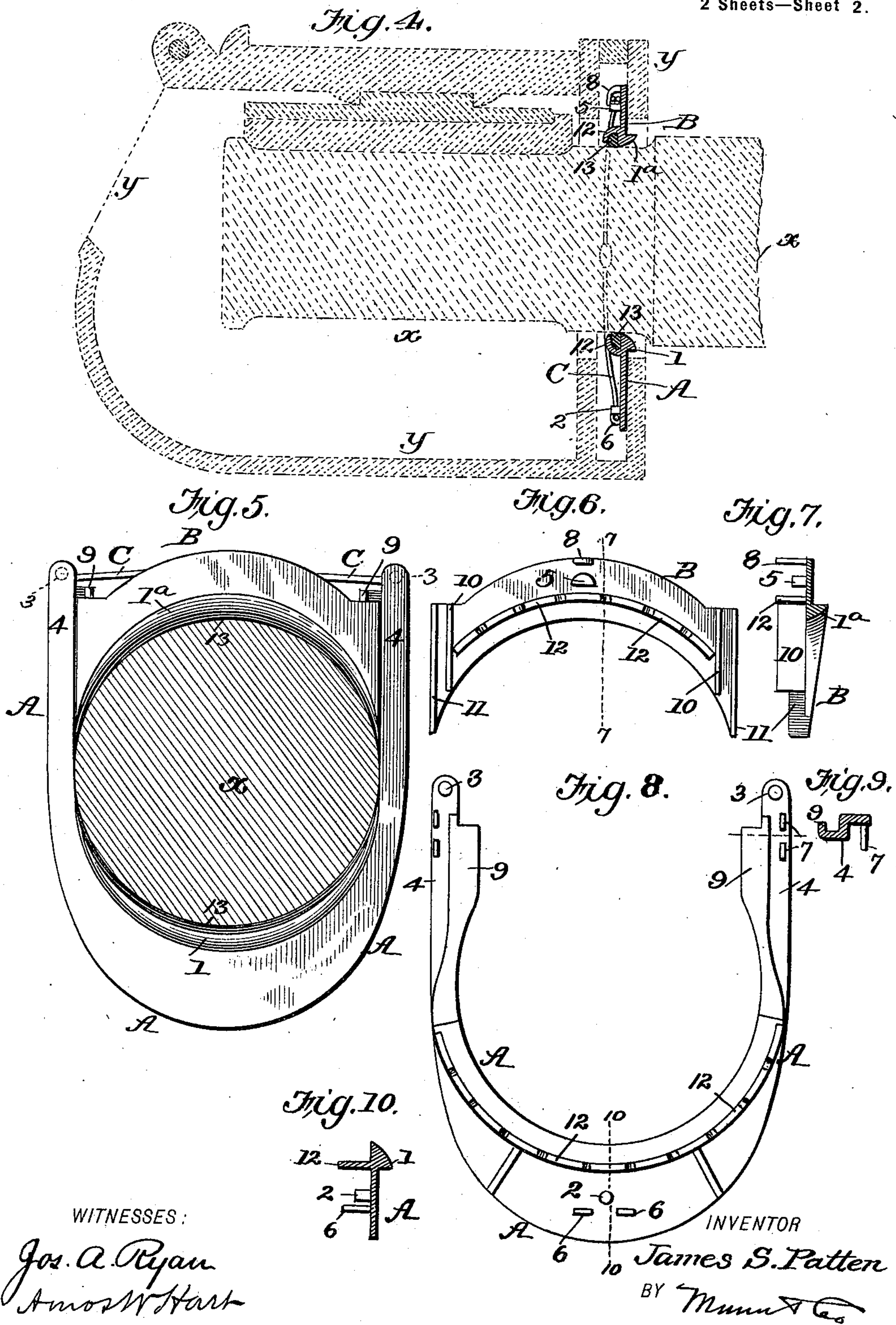
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UNITED STATES PATENT OFFICE.

JAMES S. PATTEN, OF BALTIMORE, MARYLAND.

GUARD FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 637,280, dated November 21, 1899.

Application filed March 9, 1898. Serial No. 673,248. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. PATTEN, a resident of the city of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Dust-Guards for Car-Axle Boxes, of which the following is a full, clear, and exact specification.

I have filed applications, Serial Nos. 617,069 and 633,985, for wooden and metallic dust-guards, respectively, which have been duly allowed. My present invention is in the same line and is the perfected result of continued experiment and practical test on cars in regular service.

The several novel features constituting the improvements are hereinafter described.

In the accompanying drawings, two sheets, Figure 1 is a perspective view of my invention. Fig. 2 is in part a top view and in part a horizontal section of the guard. Fig. 3 is a transverse central vertical section of the lower member of the guard on line 3 3 of Fig. 1. Fig. 4 is a view, in part diagrammatic, illustrating the guard in position relative to the car-axle and axle-box. Fig. 5 is a vertical section of the axle, showing the guard in place thereon. Fig. 6 is a face view of the upper member of the guard, showing the construction of the same as it comes from the mold. Fig. 7 is a vertical section of the same on line 7 7 of Fig. 6. Fig. 8 is a face view of the lower member of the guard as it comes from the mold or flask. Fig. 9 is a horizontal section of the upper portion of the same. Fig. 10 is a vertical section of the same on line 10 10 of Fig. 8. Fig. 11, Sheet 1, is a detail section showing a reinforce or "wear-button" clamped upon the wire spring.

The dust-guard is composed of three principal parts or members A B C. The body proper is formed of the two metallic parts or members A and B, which are adapted to slide on each other and embrace the car-axle x , Figs. 4 and 5, to which their inner edges conform, as shown.

Both members A and B are constructed of some inexpensive metal which has a due degree of flexibility, and for this purpose I prefer malleable cast-iron. The third member of the dust-guard is a wire spring C, Fig. 1, which is so applied, arranged, and constructed

with the body members A B as to hold them in due frictional contact with the car-axle and also press them bodily outward against the rear wall of the pocket commonly provided in axle-boxes y , as shown in Fig. 4.

One of the new features constituting the improvement is the construction of the inner semicircular edges 1 and 1^a of the respective members A B, as shown best in Figs. 3, 4, and 10. The said edges 1 and 1^a are provided with rearward projections or ribs, and the entire edge thus broadened or extended is beveled for the purpose of enabling the dust-guard to be easily and quickly applied to the axle x . It has proven a matter of much difficulty, involving considerable labor, delay, and annoyance, to apply dust-guards of this variety to car-axes, more particularly to force them over the collars of the same. This objection is completely remedied or overcome by my improvement, since it enables the guard to be easily pushed on over the end or collar of the axle. The same construction—namely, the provision of the beveled flanges 1 1^a—will obviously enable the guard to be forced back over the shoulder of the axle. It will be seen that the ribs before referred to not only provide the lateral extension of the beveled surfaces required to enable them to slide easily over the axle-collar or shoulder, but strengthen the guard members at a point where they most require it. The said members may therefore be made quite thin and light at other points. In addition to this function of the flanges 1 1^a they greatly strengthen the members A and B transversely, and thus add to the durability of the guard without interfering with its function as such.

Another improvement is the construction and application of a single spring C, as shown, for holding the guard members A B in due engagement with a car-axle x and for pressing it outward against the rear wall of the pocket in the axle-box y , Fig. 4.

As shown in Figs. 2 and 3, the wire spring C is held engaged at its middle with a lug 2 on the lower member A and extends rearward and also laterally and upward therefrom to cylindrical lugs 3 at the top of the side arms of said member A and is coiled around said lugs 3, whence its free ends extend to a lug

5, formed integrally and centrally on the upper member B, and on which they press downward. Thus the lugs 3 are in effect fulcrums for two elastic levers formed by the end portions of the spring C, which tend to hold the said member B pressed inward or toward the concave portion of member A.

To hold the spring C firmly in place without interfering with its above-stated function, I employ claspings or clamping fingers, which being formed integrally with members A B may be bent over and pressed down on the wire, as shown. Two such fingers 6 are located contiguous to the lugs 2, and two others next to the upper lugs 3, and another one, 8, beside the lug 5. When the parts A B are cast, these several fingers 6 7 8 project from the former at a right angle, as shown in Figs. 6 to 10, inclusive, by which arrangement the fingers do not interfere with drawing the casting from the mold. When the wire C is applied to the guard, the pairs of fingers 6 and 7 are bent down upon the former and clasp it tightly, so that it is held immovable at those points, while the finger 8 on member B is curved over the intersecting ends of the wire, so as to confine them without interfering with their free sliding movement on the lug 5.

The sliding joint between the members A B is formed of curved interlocking flanges 9 and 10 and rib 11. (See especially Figs. 1 and 2.) The flanges 10 on member B are cast straight or projecting at a right angle, as shown in Figs. 6 and 7, for the purpose of facilitating drawing the member from the mold, and are subsequently bent or curved, as shown, to engage with the correspondingly curved flanges 9 of member A. The rib 11, Figs. 6 and 7, of member B runs in the groove formed by the bent flanges 9 of member A, and the flanges 10 of member B clasp loosely over the flanges 9, thus forming a loose joint, which permits the members A B to slide easily on each other, while holding them in due lateral alinement when in use and at the same time permitting them to be readily disengaged or put together.

Each member A B is provided on its inner concave edge with a series of similar separated flanges or clasps 12, which are cast straight or at right angles to the bodies of the respective members, as shown in Figs. 6, 7, and 8, similarly to the fingers or clasps before described. The said flanges 12 are subsequently bent inward to clasp and firmly hold

the leather strips 13, which constitute wipers proper for the car-axle α .

At the middle portions of the wire spring C, where they are subjected to friction and wear with the axle-box y , I apply a reinforcement 14, Figs. 1, 2, and 11, Sheet 1, in the form of thick metal clasps, which are termed "wear-buttons." The same are formed of split or slotted pieces of brass, malleable iron, or some other duly flexible metal, and they are applied and secured to the wire C by compressing the sides or wings of the buttons firmly upon the same, as indicated.

What I claim is—

1. The combination, with the two members, adapted to slide on each other, of the integral wire spring secured at its middle to the lower member, and coiled about and held engaged with lugs formed on the upper portions or arms of said member, and its free ends projecting inward, and means for supporting and confining such free ends, as shown and described.

2. The improved dust-guard comprising members which are slidable on each other and provided with outwardly-extending ribs along their semicircular inner edges, the entire portion of the latter, thus thickened and broadened being beveled as shown and described for the purpose specified.

3. The improved metallic dust-guard composed of two slidable members having outwardly-projecting flanges formed integrally with their flat bodies adjacent to the concave edges of the latter, the said flanges being flared or beveled in opposite directions, to adapt them to perform the leading function specified.

4. The upper member of the dust-guard formed of a metal blank having a due degree of flexibility and having a beveled flange on one side, contiguous to its concave edge, and the flexible flanges 10 and 12, the rib 11, the lug 5, and flexible claspings-finger 8, as shown and described.

5. The combination with the slidable members of the dust-guard, of the wire spring applied and secured thereto as shown, and the wear-buttons or reinforcements clamped upon the middle portions of said spring, as shown and described.

JAMES S. PATTEN.

Witnesses:

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 SOLON C. KEMON.