

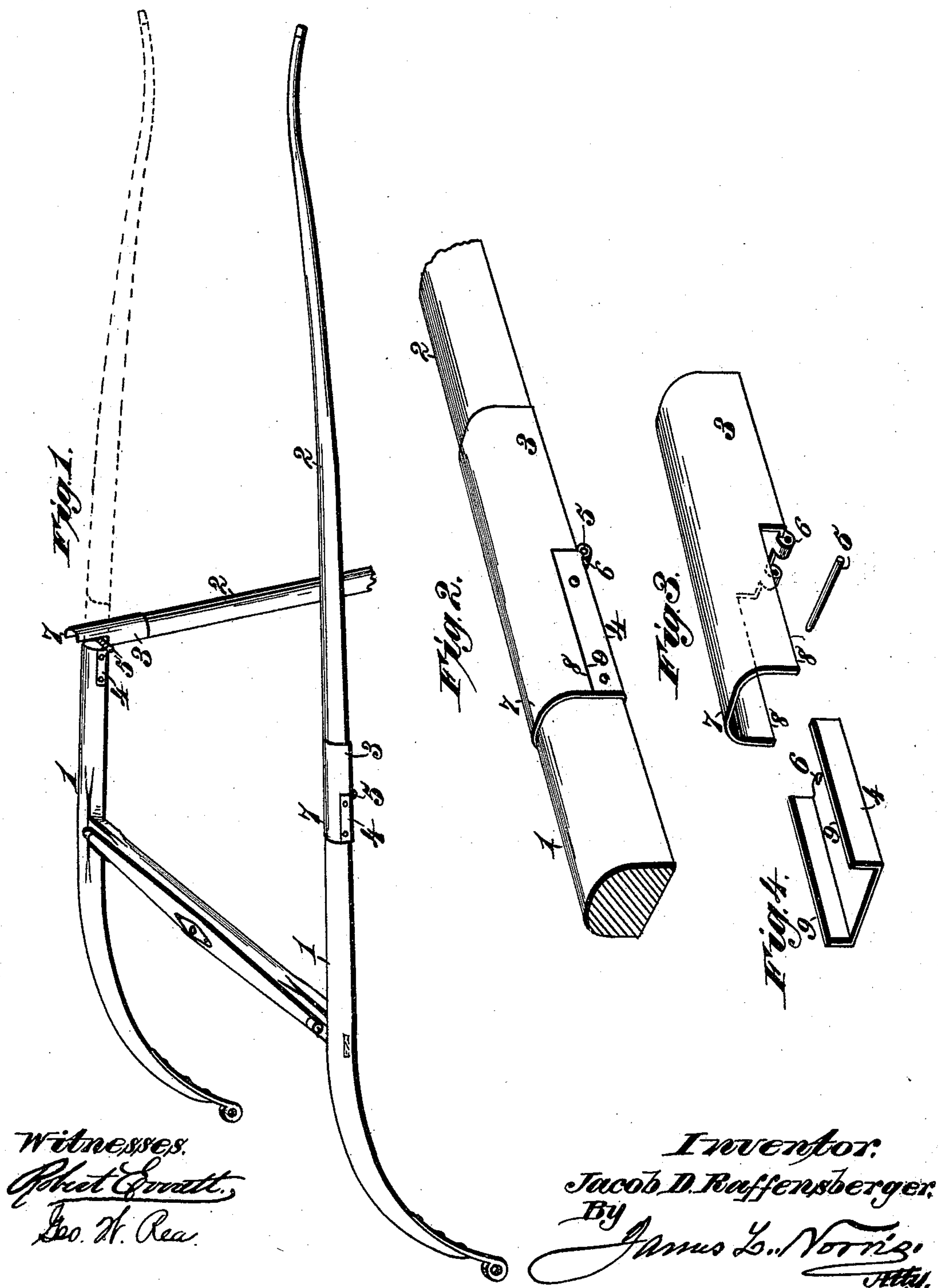
(No Model.)

3 Sheets—Sheet 1.

J. D. RAFFENSBERGER.
FOLDING THILL OR POLE FOR VEHICLES.

No. 438,946.

Patented Oct. 21, 1890.



Witnesses:
Robert Emmett
Geo. W. Rea

Inventor:
Jacob D. Raffensberger
By *James L. Norris*
Atty.

(No Model.)

3 Sheets—Sheet 2.

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Fig. 5.

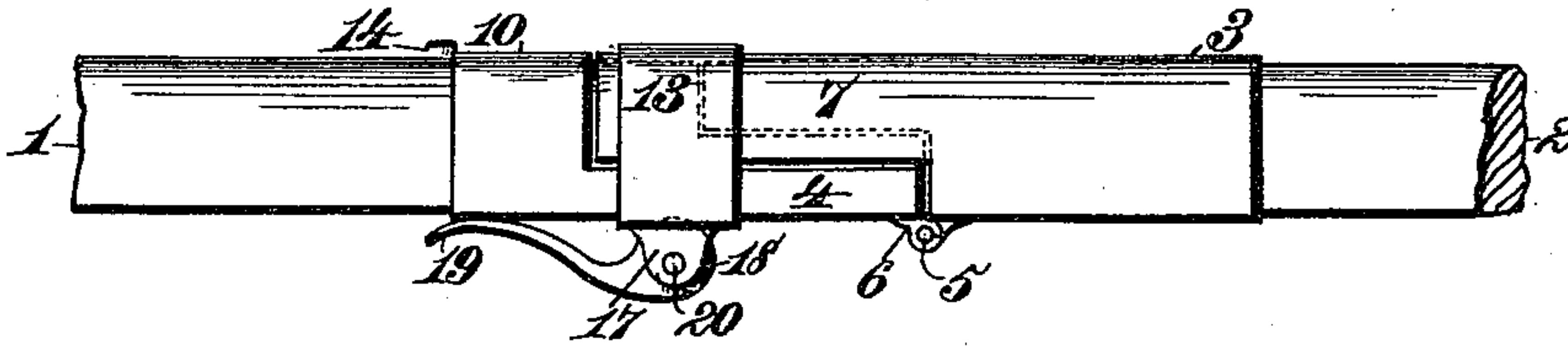


Fig. 6.

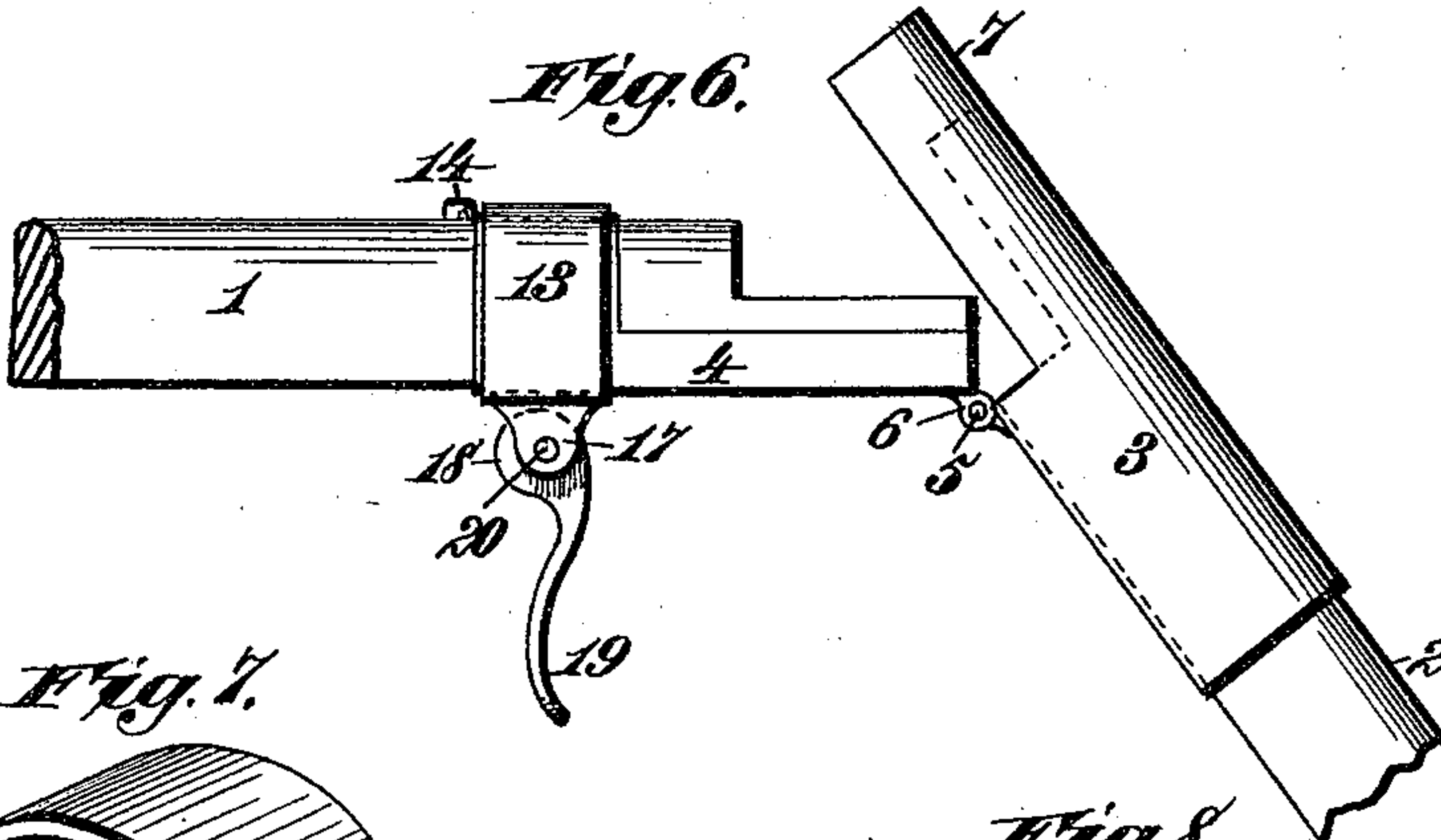


Fig. 7.

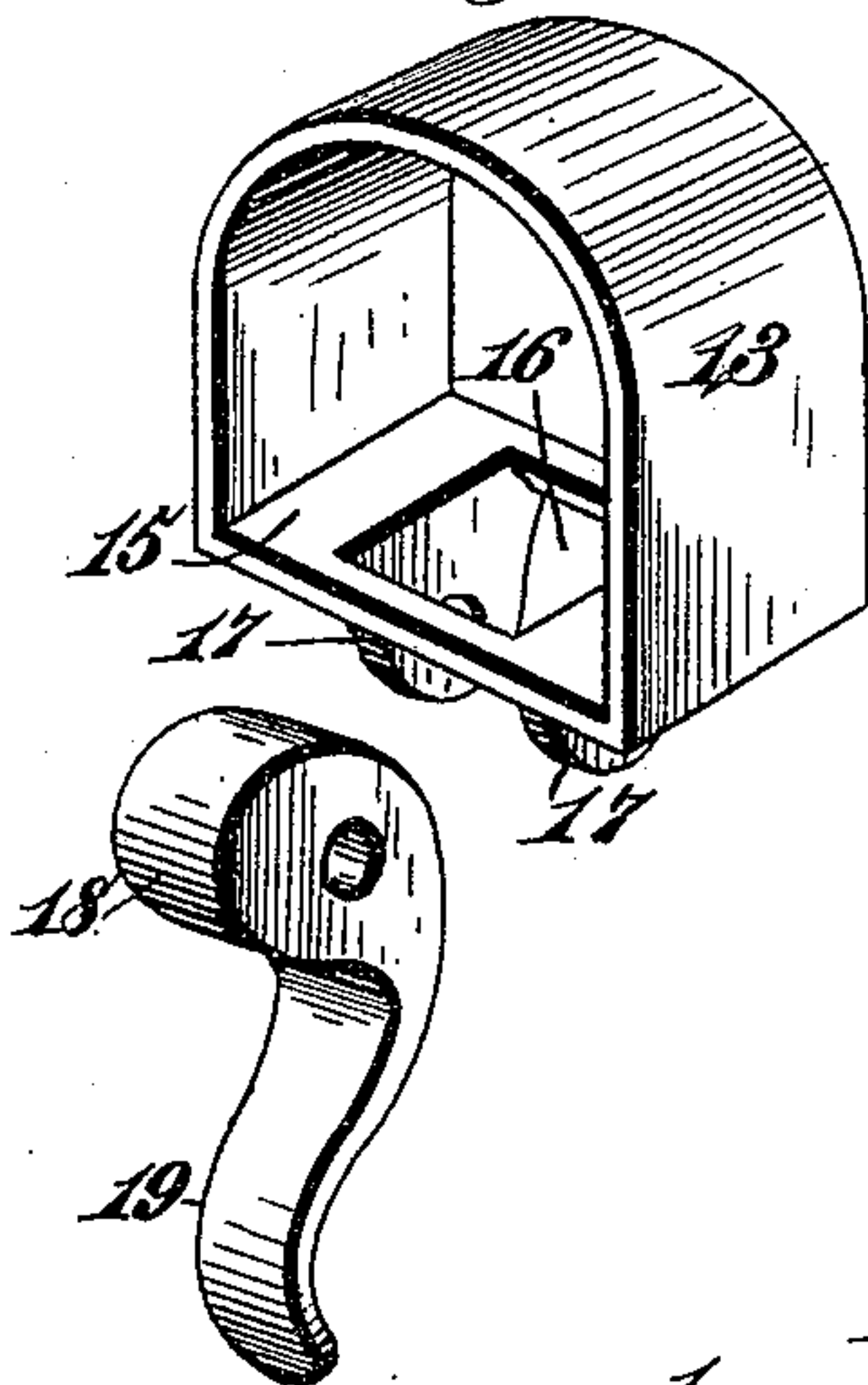


Fig. 8.

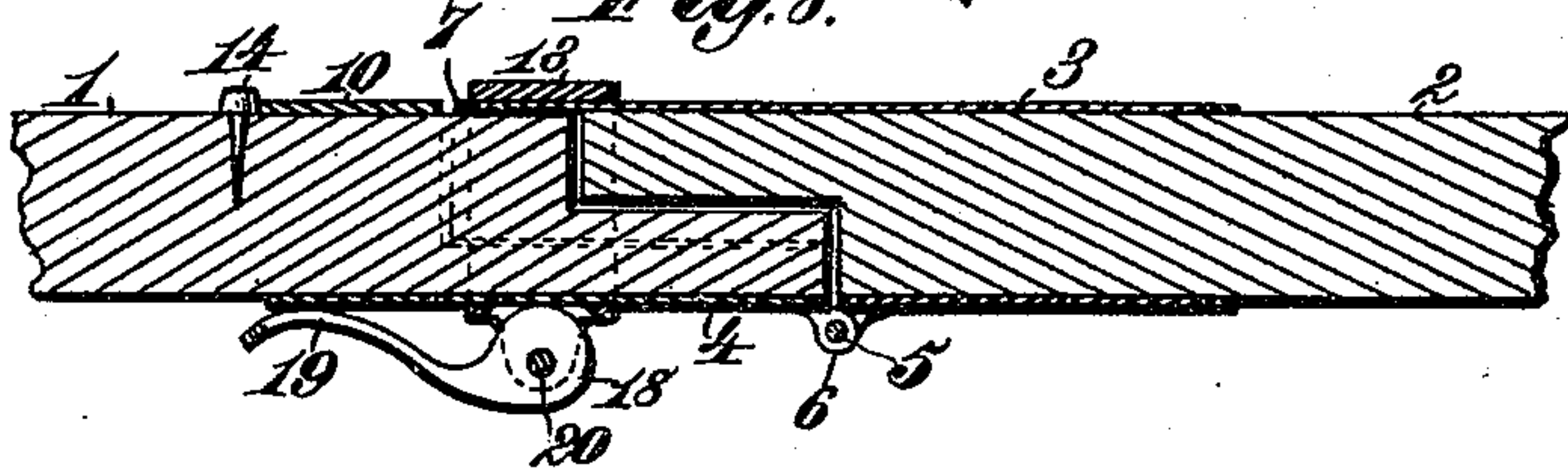


Fig. 9.

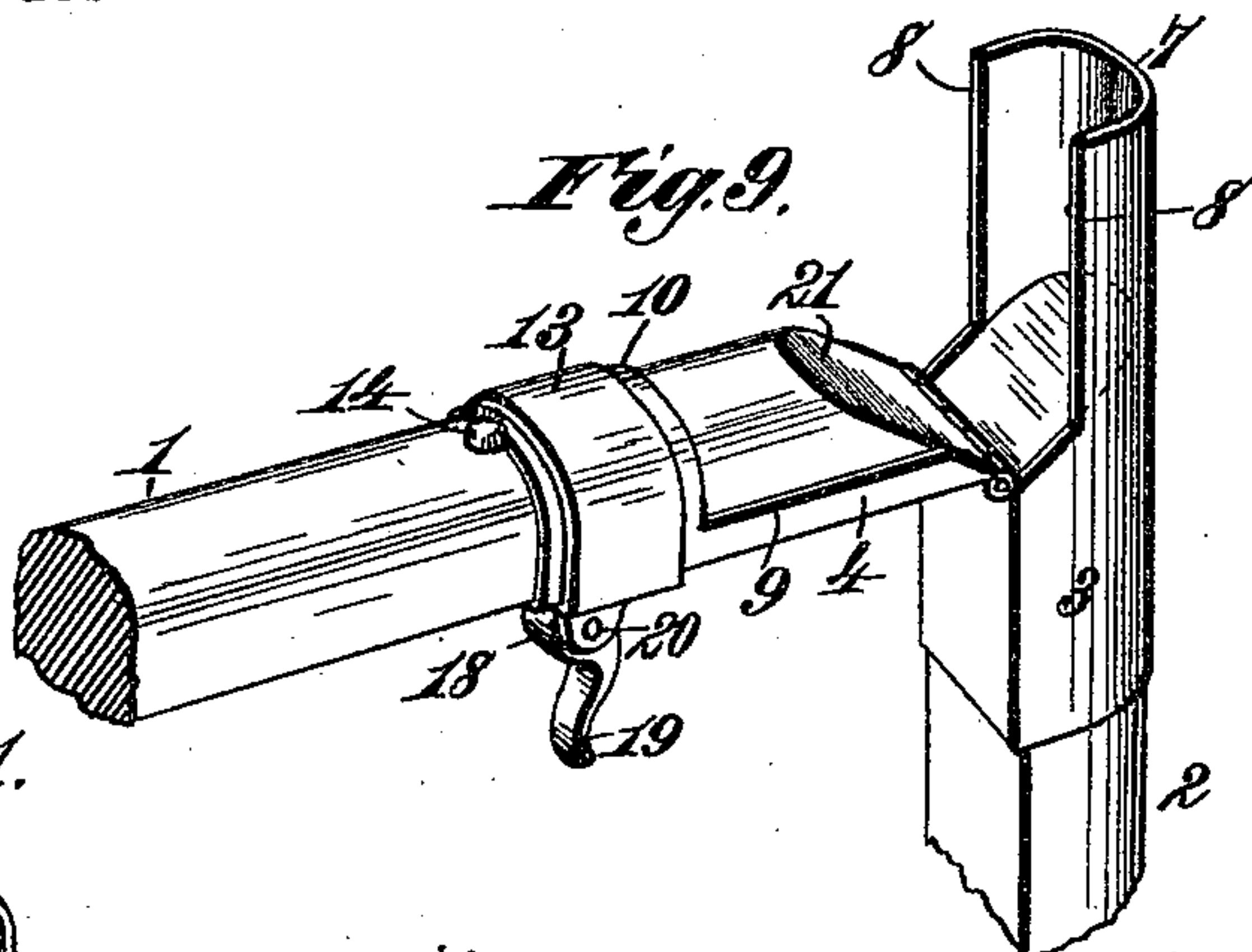


Fig. 11.

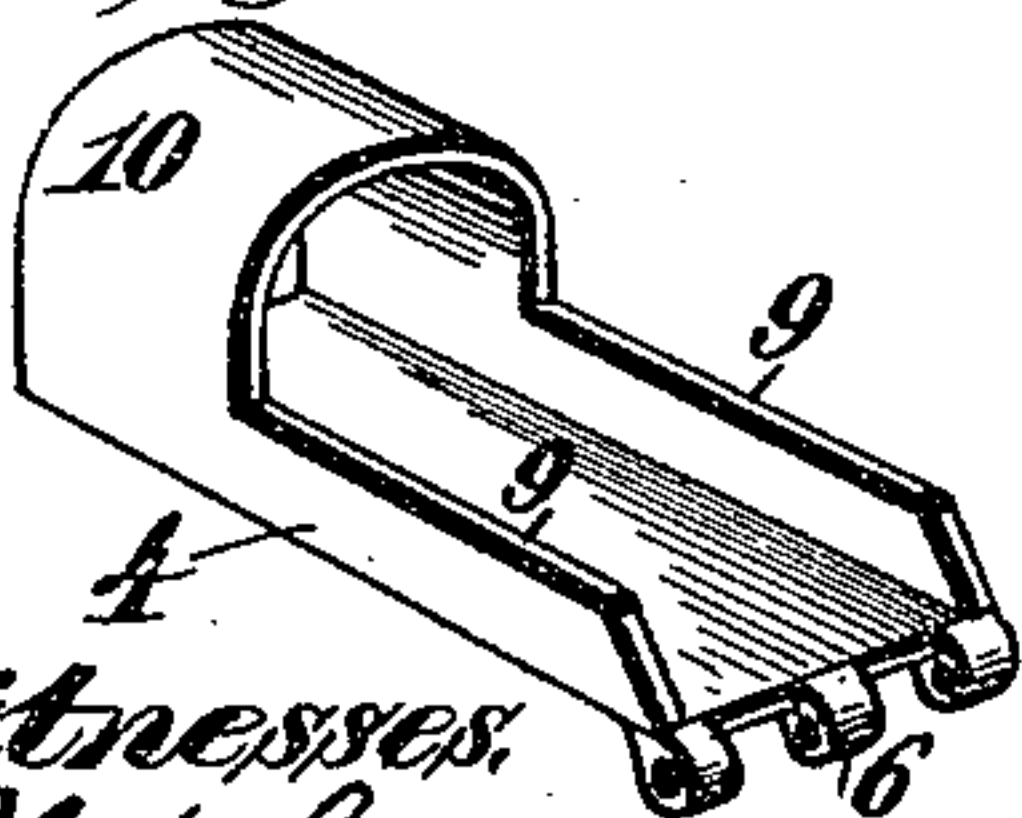
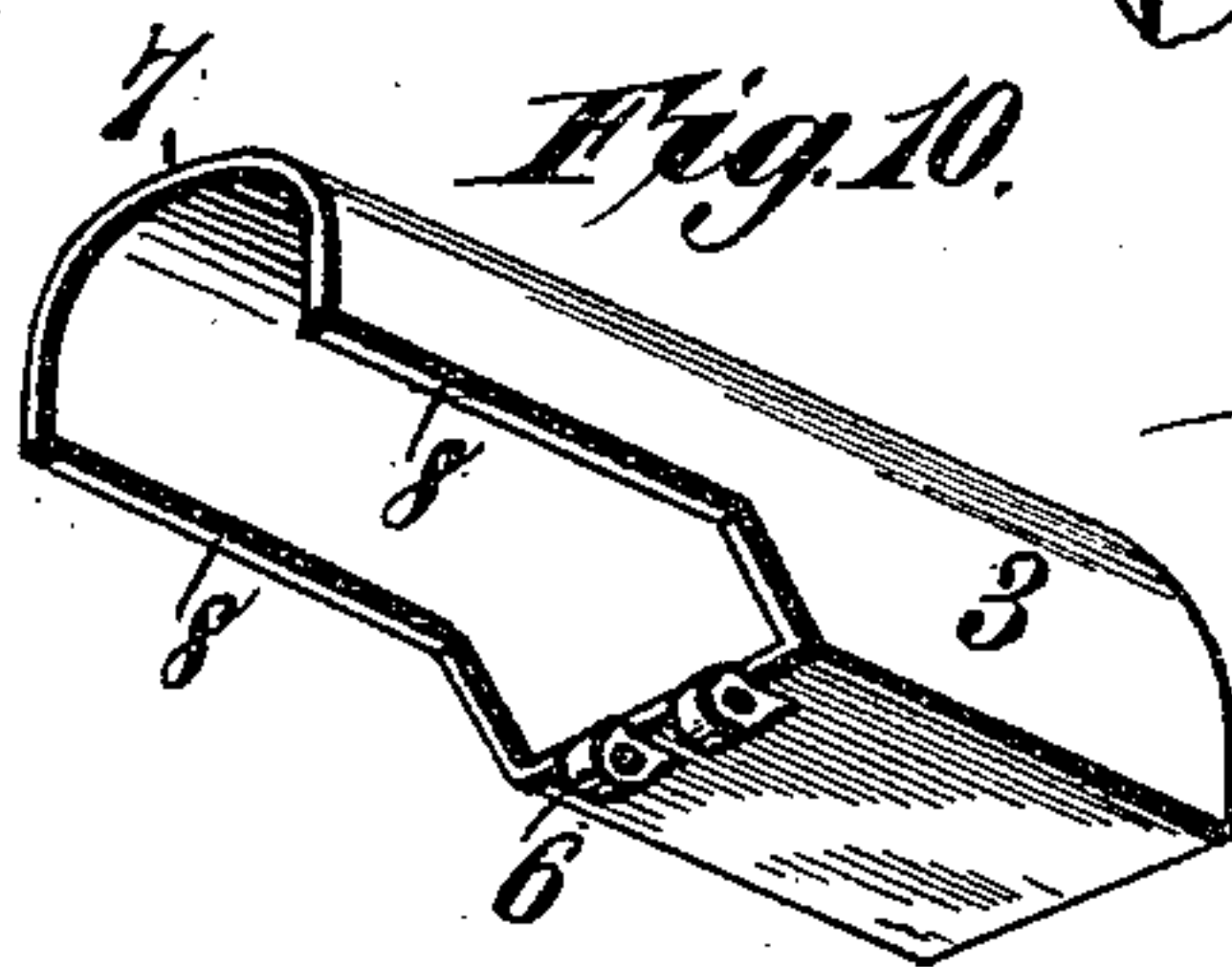


Fig. 10.



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Fig. 12.

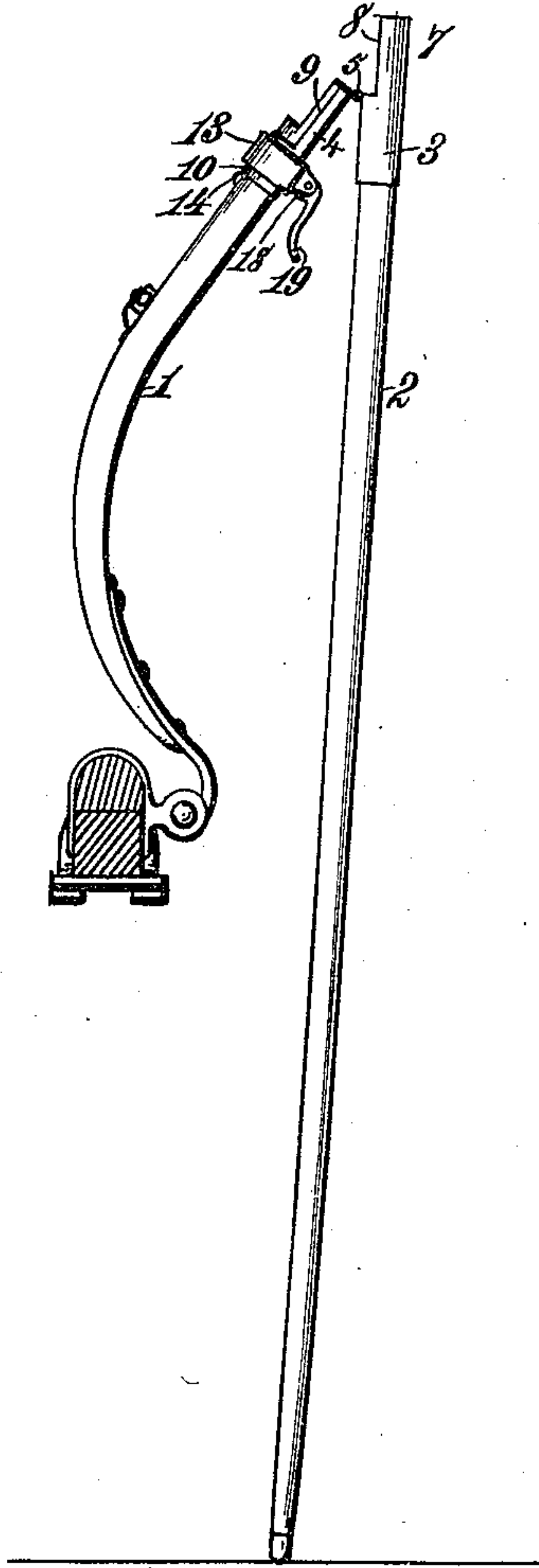


Fig. 13.

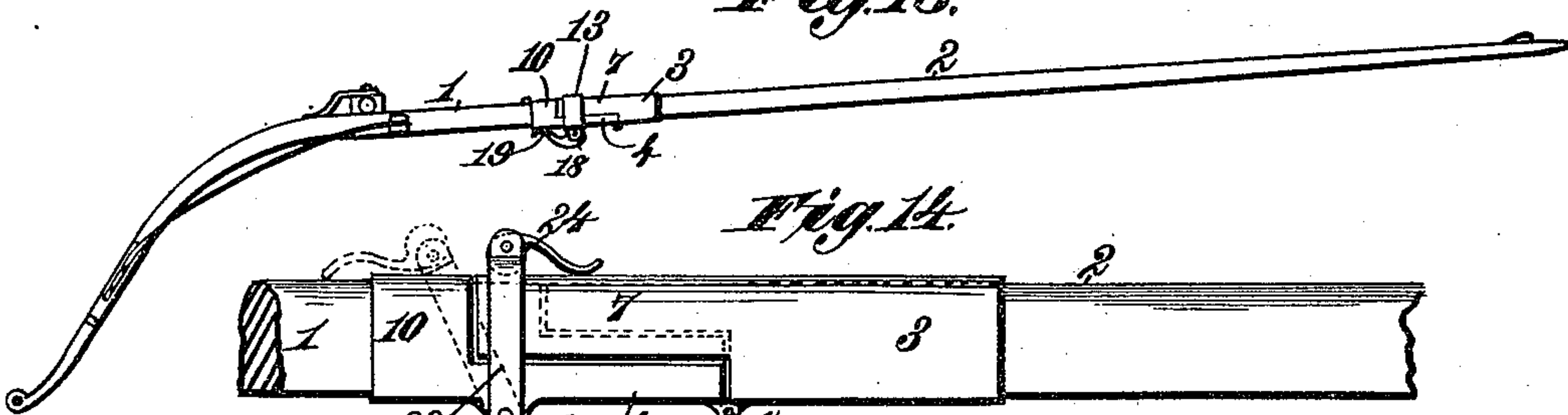


Fig. 14.

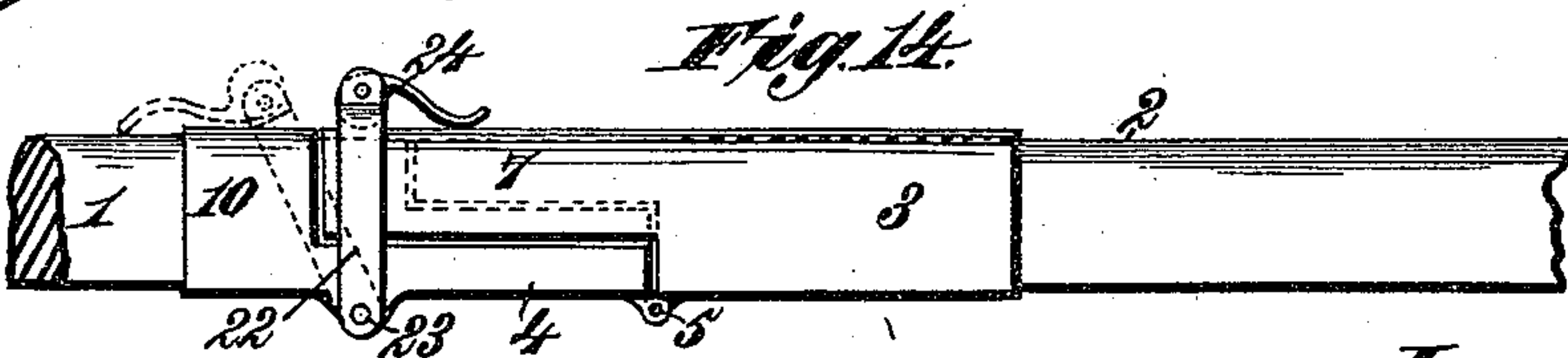
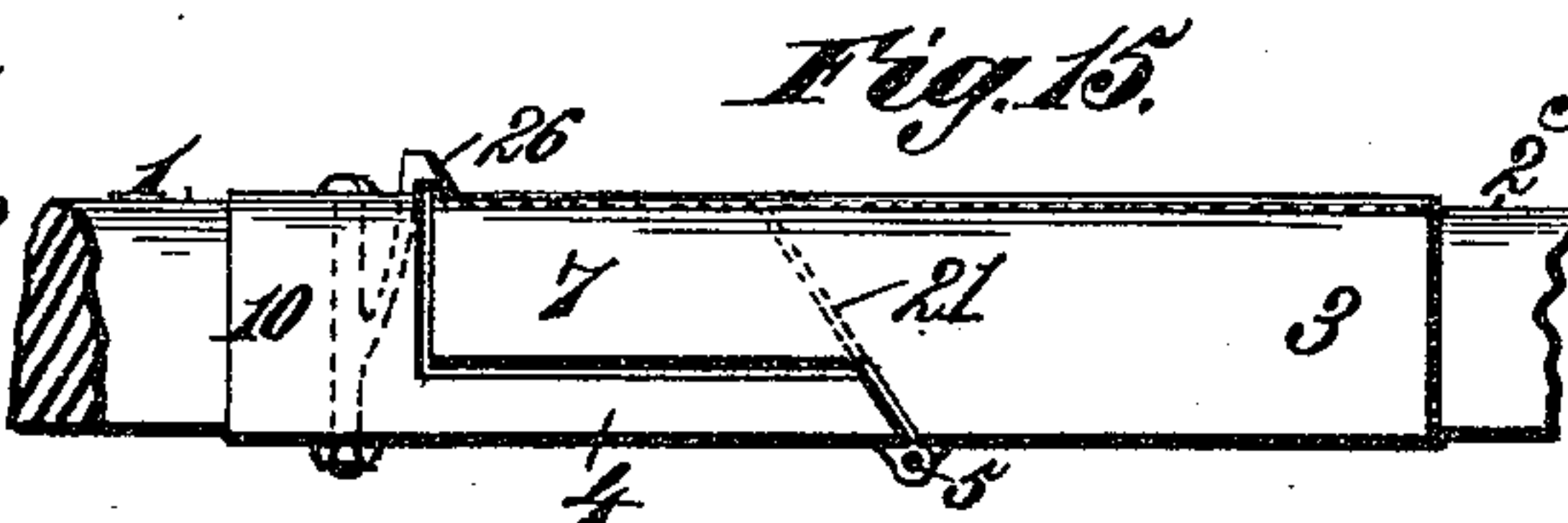


Fig. 15.



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UNITED STATES PATENT OFFICE.

JACOB D. RAFFENSBERGER, OF MECHANICSBURG, PENNSYLVANIA.

FOLDING THILL OR POLE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 438,946, dated October 21, 1890.

Application filed July 26, 1890. Serial No. 360,067. (No model.)

To all whom it may concern:

Be it known that I, JACOB D. RAFFENSBERGER, a citizen of the United States, residing at Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented new and useful Improvements in Folding Thills or Poles, of which the following is a specification.

This invention relates to that type of sectional jointed thills or poles which can be folded when not in use; and the main object of my invention is to provide a novel, efficient, and practical construction for the jointed extremities of thills or poles, wherein a sleeve encircling one thill or pole section is so formed as to extend across the hinged joint and embrace the wooden extremity of the other thill or pole section, whereby a strong, durable, and safe jointed connection is obtained, which will not open while the animal is pulling or holding back.

The invention also has for its object to provide a novel construction and arrangement whereby the rear thill or pole section can be raised and the front section lowered to place the folded thill or pole in a perpendicular position, or approximately so, for economizing in space when housing the vehicle.

The invention also has for its object to provide a novel, efficient, and safe construction of jointed thill or pole sections whereby the rear thill or pole section can be elevated and the front section lowered to rest against the ground or floor and act as a prop for sustaining the thill or pole in a folded approximately perpendicular position.

The invention also has for its object to provide a novel construction of thill or pole which enables the hitching of the animal to the vehicle to be more conveniently effected than heretofore.

The invention also has for its object to provide a novel construction of thill or pole for facilitating repairs should occasion demand, and, finally, the invention has for its object to provide a novel clamp for rigidly locking the hinged sections together and preventing their rattling.

To accomplish all these objects my invention involves the features of construction, the combination or arrangement of devices,

and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view showing my invention embodied in the thills of a vehicle. 55
Fig. 2 is a broken detail view on a larger scale showing the construction of the joint. Fig. 3 is a detail perspective view of the sleeve which encircles one thill-section and extends 60 across the joint to embrace the extremity of the other thill-section. Fig. 4 is a detail perspective view of the metallic binding of the rear thill-section, to which the sleeve is hinged or pivoted. Fig. 5 is a broken detail view of a modified construction showing my improved 65 clamping device for locking the hinged sections together. Fig. 6 is a similar view showing the front section released and turned downward. Fig. 7 is a detail perspective view of the box-clamp. Fig. 8 is a vertical central 70 sectional view of the construction shown in Figs. 5 and 6. Fig. 9 is a broken perspective view of a modified construction showing the front section released from the clamp and 75 turned downward. Fig. 10 is a detail perspective view of the sleeve shown in Fig. 9, which encircles the front thill-section. Fig. 11 is a detail perspective view of the metallic binding which is applied to the rear thill- 80 section in Fig. 9. Fig. 12 is a sectional side elevation of the thills in their folded position with the front thill-sections lowered and acting as a prop. Fig. 13 is a side elevation showing the invention applied to the tongue 85 or pole of a vehicle. Fig. 14 is a broken detail view showing a modified construction of clamp or fastening device. Fig. 15 is a similar view showing another modified construction of fastening device for securing the 90 hinged thill or pole sections together.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where— 95

The numerals 1 indicate the rear sections of the thills, which are adapted to be pivotally connected with the front axle of a vehicle in any ordinary manner. The front thills, sections 2, are each provided at their rear extremities with a metallic sleeve 3, which surrounds or encircles such section, and is hinged 100

or pivoted to the metallic binding 4, applied to the forward extremity of each rear thill-section. The hinge is preferably of the knuckle type, and is composed of the pintle 5, passing through the eyes 6, formed on the sleeve and binding. The sleeve 3, which surrounds or encircles each of the front thill-sections, conforms accurately with the shape of the latter, and is formed integral with the shell-like extension 7, which is approximately semi-circular in cross-section and projects across the hinged joint 3 to overlay and embrace the forward extremity of the rear thill-section in such manner that the rectilinear edges 8 of the shell-like extension rest upon the rectilinear edges 9 of the metallic binding, and thereby cover and strengthen the hinged joint of the thill-sections. By this peculiar construction I produce practical jointed thills, which are strong, durable, and safe, and the joint of which will not open while the animal is pulling or holding back. The adjoining ends of the thill-sections are divided in such manner that when the front and rear thill-sections are in alignment, as indicated by the full lines, Figs. 1 and 2, such adjoining ends abut each other, while their abutting portions are covered and concealed by the metal sleeve with its shell-like extension projecting across the hinge-joint.

The knuckle hinge or pivot is located at the under side of the thills, the purpose of which arrangement is to permit the rear thill-sections to be elevated and the front thill-sections to be lowered, whereby the thills can be folded to stand perpendicular, or approximately so, and the front thill-sections, one or both, made to rest at the outer extremity upon the ground or floor, as represented in Fig. 12, to serve as a prop for sustaining the thills in their folded condition to economize in space when the vehicle is housed. When the thills are unfolded and brought to the position required for hitching the animal, the shell-like extensions on the sleeve 3 overlay and rest upon the forward extremities of the rear thill-sections, and therefore the front thill-sections are stopped in proper alignment with the rear thill-sections and the hinge-joint will not be broken while the animal is pulling or holding back. The jointed construction of the thills also provides for convenient repairing of broken thills when occasion demands, and in this respect the invention is very desirable.

The construction illustrated by Figs. 1, 2, 3, and 4 can be practically used without the employment of a locking or fastening device for securing the front and rear thill-sections in alignment; but in practice I prefer to employ a clamp device such as is exhibited by Figs. 5, 6, and 7.

In Figs. 5, 6, and 8 the adjoining extremities of the front and rear thill-sections are cut away to form the rabbeted joint, and the metallic binding 4 of the rear thill-section is formed with a ring or collar 10, which surrounds or encircles such rear thill-section,

and serves as a bearing for the sliding box-clamp 13, that is adapted to move forwardly from such ring or collar to a position upon the shell-like extension 7 of the sleeve 3, as shown in Fig. 5. The rearward movement of the box-clamp may be limited in any suitable manner—as, for example, by the stop pin or lug 14, secured to the rear thill-section—but obviously some device other than the stop pin or lug can be employed to limit the rearward movement of the box-clamp, and therefore I do not confine myself to any particular construction for accomplishing this result. The sliding box-clamp conforms to the cross-sectional shape of the thills, and is provided with a bottom wall 15, having the orifice or opening 16 and two pendent ears 17, between which is pivoted the cam or eccentric 18, having a lever-handle 19. The pivoted pin 20 of the cam or eccentric extends through the ears 17, and permits the cam or eccentric to be swung for the purpose of locking the box-clamp in a fixed position. The cam or eccentric of the lever-handle is adapted to pass through the orifice 16 in the bottom wall of the box-clamp to bind against the under side of the metallic binding 4 of the rear thill-section in such manner when the thill-sections are placed in alignment, as in Figs. 5 and 8, the box-clamp can be slid forwardly over the shell-like extensions 7 to the sleeve 3, and then by swinging the lever-handle rearwardly to rest against the rear thill-section, as in Fig. 5, the box-clamp will be tightened and located firmly in a fixed position, thereby securing together the thill-sections and effectually preventing their rattling.

In Figs. 9, 10, and 11 the construction is the same as described with reference to Figs. 5, 6, 7, and 8, except that the joining ends of the front and rear thill-sections are divided on an oblique or diagonal line, as at 21.

In Fig. 13 I have exhibited my invention applied to the tongue or pole of a vehicle, and as the features of construction are essentially the same as heretofore described I do not deem it essential to specifically describe the parts exhibited in Fig. 13.

In Fig. 14 the construction is the same as described with reference to Figs. 5, 6, and 8, with the exception that instead of the sliding box-clamp I employ the swinging yoke 22, pivoted at its lower portion, as at 23, and carrying at its upper portion a pivoted cam-lever 24 in such manner that the yoke can be swung forwardly to the position indicated by full lines, and then by swinging the handle of the cam-lever downwardly the cam is caused to bind against the shell-like extension 7 of the sleeve 3, and thereby rigidly connects the jointed-thill sections and prevents their rattling.

In Fig. 15 the construction is substantially the same as described with reference to Figs. 5, 6, and 8, with the exception that the thills are divided on an oblique or diagonal line, as at 21, the same as in Fig. 9, and the spring-

catch 26 is employed to connect the hinged sections together and prevent them from rattling.

In the several figures of the accompanying drawings like figures of reference indicate corresponding parts, and therefore I have not specifically described the several parts shown in each figure.

In hitching the animal to the vehicle, one or both of the front thill-sections can be lowered to rest on the ground, and thereby sustain the rear thill-sections in an elevated position while the animal is backed between the thills in the usual manner.

By adjusting the front thill-section, which rests on the ground, to a more or less inclined position the height at which the rear sections are supported can be varied to suit the conditions required—as, for example, when the animals differ in height.

In practice, the hinge-joints of the thills are located at such point that when the rear sections are swung upwardly and the front sections are swung downwardly the folded thills will stand perpendicular, or approximately so, and the forward extremities of the front thill-sections, either or both, will rest on the ground and act as props for sustaining the thills in their folded position, as exhibited in Fig. 12.

As regards the shell-like extensions 7 of the sleeve 3 to project across the hinged joint of the thill or pole sections, I do not confine myself to a locking device for rigidly fastening the front and rear sections together, for this part of my invention can be employed for light driving without the use of a clamp or other locking or fastening catch.

It will be obvious that instead of placing the sleeve 3 of the front thill-section on the metallic binding of the rear thill-section the position of the parts can be reversed and the sleeve placed on the rear thill-section, while the metallic binding is placed on the front thill-section; but this construction is not preferred.

In my improved folding thills or poles the front extremities can rest on the ground without breaking or opening the joints, which result is attained by locating the hinge or pivot at the under side of the thill or pole section, and this is a new and useful and desirable arrangement, particularly desirable in connection with the construction of the sleeves to project across and cover and conceal the division of the thills or poles into sections.

Having thus described my invention, what I claim is—

1. The combination, with two sections of a folding thill or pole for vehicles, of a metallic sleeve surrounding the extremity of one section, hinged to the other section at the under side of the two thill-sections, whereby the front thill-section can be swung downward to rest upon the ground or floor to serve as a prop for sustaining the thill in an approximately perpendicular position, said sleeve having an extension which projects across the joint and encircles the top surface of the opposite thill or pole section, substantially as described.

2. The combination, with a sectional jointed thill or pole for a vehicle, of the metallic sleeve surrounding the extremity of one section, hinged to the other section and having an extension projecting across the joint and partially encircling or surrounding said other thill or pole section, and a sliding box-clamp for engaging the extension of the sleeve to lock the hinged sections together and prevent their rattling, substantially as described.

3. A sectional thill or pole having the rear and front sections hinged together and one section provided with a sleeve formed with a shell-like extension projecting across the joint, in combination with a sliding box-clamp having a swinging cam or eccentric provided with a lever-handle for locking the sections in alignment with each other and preventing their rattling, substantially as described.

4. A sectional pole or thill having the rear and front sections hinged together and one section provided with a sleeve formed with a shell-like extension projecting across the joint and embracing the other section, in combination with a sliding box-clamp having an orifice in its bottom wall and provided with pendent lugs or ears, and a cam or eccentric pivoted to the lugs or ears and provided with a lever-handle for causing the cam or eccentric to pass through the orifice and lock the box-clamp in a stationary position to secure the thill or pole sections in alignment with each other and prevent their rattling, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JACOB D. RAFFENSBERGER.

Witnesses:

Y. D. KEEFER,
JAS. L. YOUNG.