

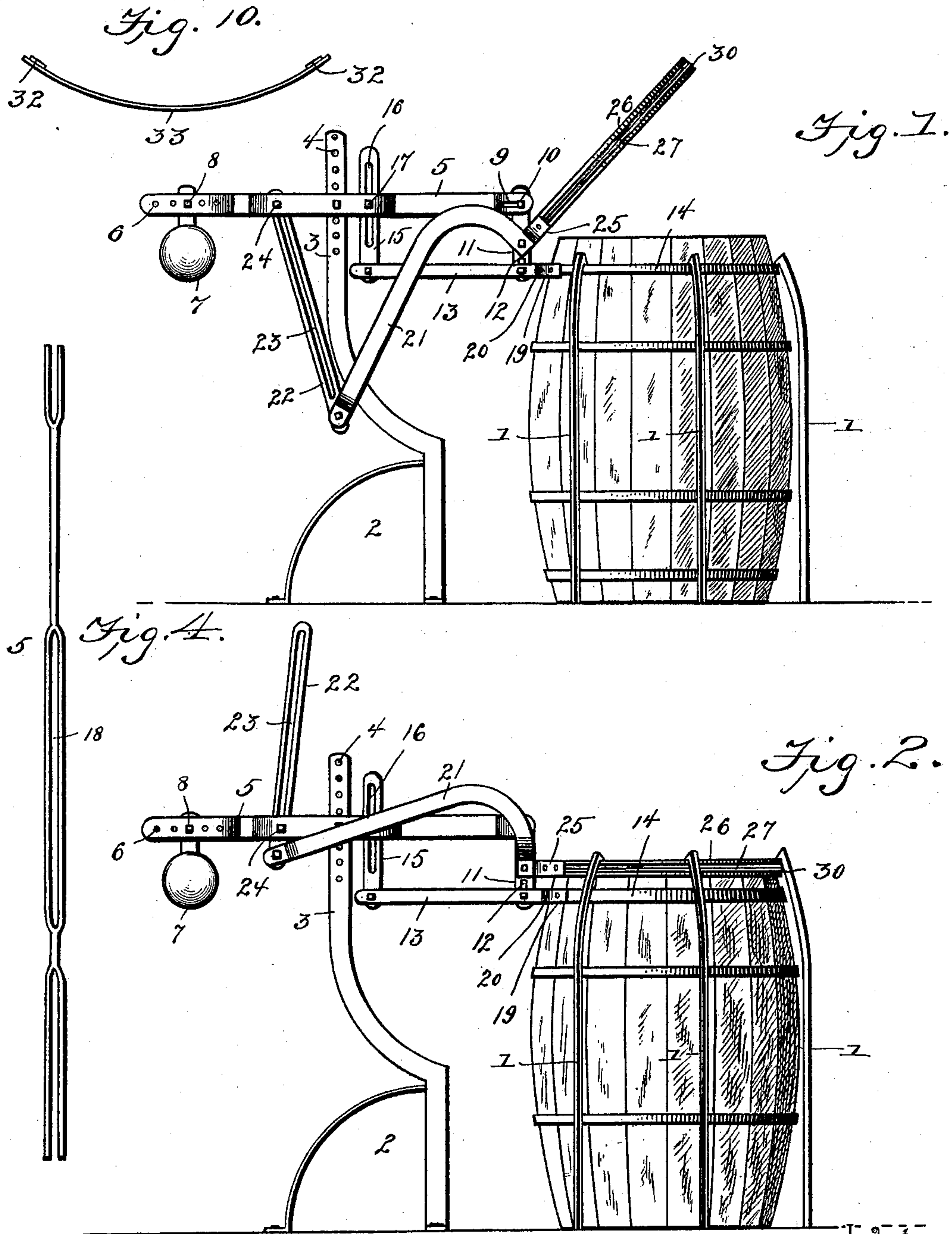
(No Model.)

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MACHINE FOR HOOPING BARRELS.

No. 594,052.

Patented Nov. 23, 1897.



Inventors

Melville C. Wilson  
Henry G. Rush,

By their Attorneys,

C. A. Snow & Co.

Witnesses

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V. B. Hillyard.

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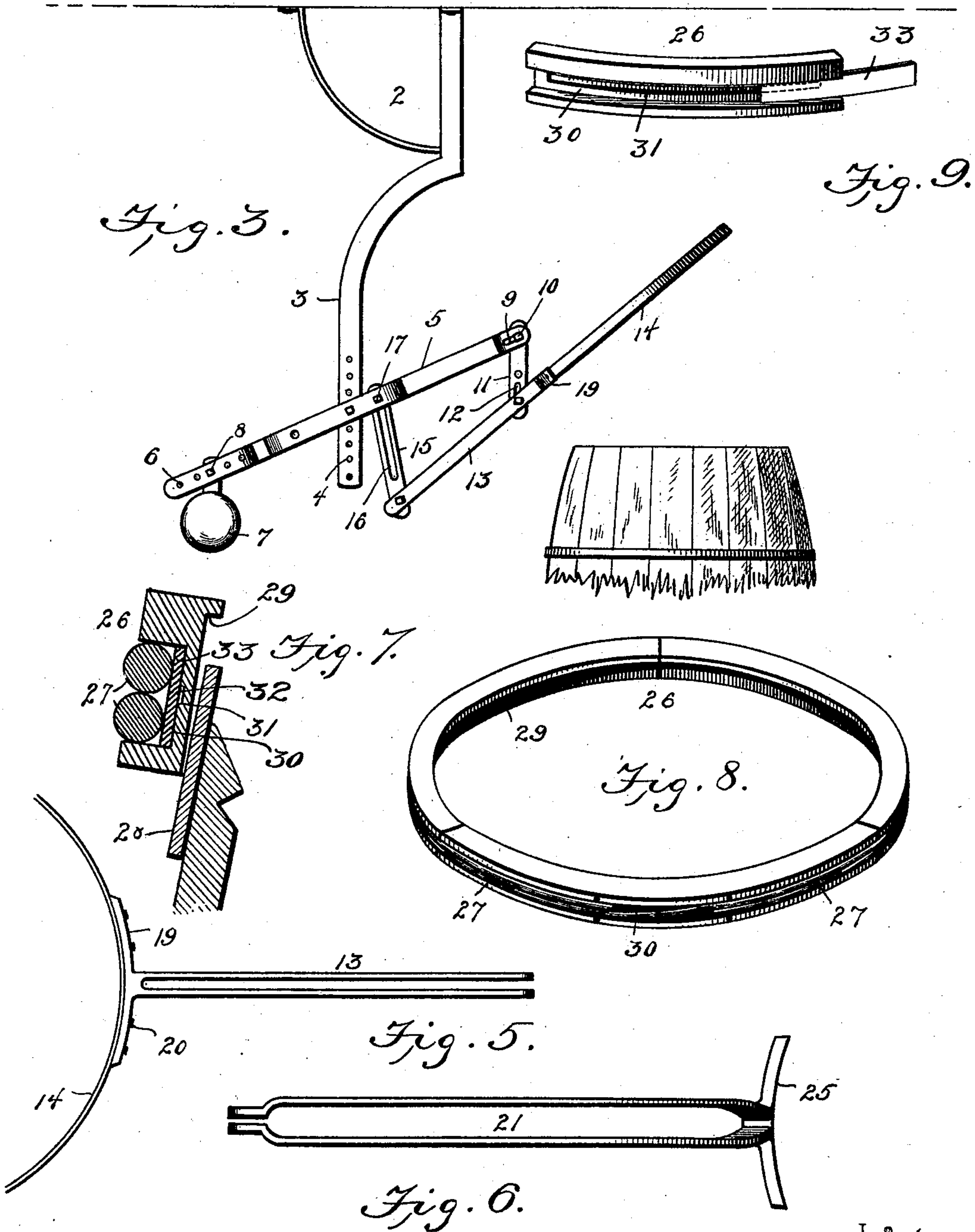
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# UNITED STATES PATENT OFFICE.

MELVILLE CHALMERS WILSON AND HENRY GEORGE RUSH, OF OIL CITY,  
PENNSYLVANIA.

## MACHINE FOR HOOPING BARRELS.

SPECIFICATION forming part of Letters Patent No. 594,052, dated November 23, 1897.

Application filed December 17, 1896. Serial No. 616,048. (No model.)

*To all whom it may concern:*

Be it known that we, MELVILLE CHALMERS WILSON and HENRY GEORGE RUSH, citizens of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented a new and useful Machine for Hooping Barrels, of which the following is a specification.

This invention aims to facilitate the heading and hooping of barrels, casks, &c., by providing means for holding the catch-hoop and reinforcing the head-hoop, whereby the latter preserves its normal shape and is prevented from injury when being drawn or forced upon the barrel or cask being headed. As generally practiced the catch-hoop is drawn upon the barrel, so as to assemble the staves about the head, and the head-hoop, which is usually thin, is forced into place, thereby binding the ends of the staves and holding them in place about the head, after which the catch-hoop is removed and laid aside for future use. The drawing on or forcing home of the head-hoop generally results in injury thereto, and it is the purpose of the present invention to obviate this objection and at the same time to have the catch-hoop and the case-hoop within convenient reach and accessible at all times for instant use.

To those skilled in the art of hooping advantages other than those herein set forth will suggest themselves as the nature and details of the invention are fully comprehended, and to this end reference is to be had to the following description and the accompanying drawings.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation showing the invention as it will appear when drawing the catch-hoop into position to assemble the staves about the head. Fig. 2 is a view similar to Fig. 1, showing the relation of the parts when driving home the head-hoop. Fig. 3 shows the stand inverted and secured to an overhead support and the position of the

parts when the catch-hoop is elevated, the case-hoop and its mountings being omitted. Fig. 4 is a top plan view of the beam. Fig. 5 is a top plan view of the arm carrying the catch-hoop and to which the latter is detachably connected, a portion of the catch-hoop being shown. Fig. 6 is a top plan view of the arm carrying the case-hoop. Fig. 7 is a detail view showing the relation of the head and case hoops to each other and to a stave. Fig. 8 is a detail view of the case-hoop. Fig. 9 is a detail view of a section of the case-hoop, showing a tongue in the relation which it will occupy when stiffening the joint between adjacent sections. Fig. 10 is an edge view of a reinforcing-tongue.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference-characters.

The present invention is to be used in connection with any style of machine or means generally employed for drawing hoops about the staves of a barrel, cask, &c., after the latter has been set up, and in the drawings the numeral 1 represents the drivers of a hooping-machine, which are illustrated simply to show the application of the invention. The frame comprises a stand 2 and an upright 3, the latter having a series of openings 4 at its end to enable the beam 5 to be adjustably connected therewith, whereby its elevation may be changed to suit the height of the barrel, cask, or other package to be operated upon. This frame may be secured to the floor, as indicated in Fig. 1, or to a ceiling or overhead support, as indicated in Fig. 3, as may be best adapted according to the nature of the floor-space and surroundings.

The beam 5 is horizontally disposed and is fulcrumed between its ends to the terminal part 3 of the frame and is forked at its ends and longitudinally slotted at a middle point, the upright 3 passing through the slotted portion. One end of the beam has a series of openings 6, and a weight 7 is adjustably connected therewith by means of a pin or bolt 8, passing through one of the openings 6 and through an opening in the stem or shank of the weight 7. This construction admits of the weight being shifted to a greater or less



distance from the fulcrum of the beam, so as to counterbalance the latter and the catch and case hoops supported thereby. The opposite end of the beam has a longitudinal slot 9, in which is slidably mounted a pin or bolt 10, supporting a link 11, having a slot 12 at its lower end which receives the fulcrum of the arm 13, carrying the catch-hoop 14. A link 15 has pivotal connection at its lower end with the rear end of the arm 13, and has a slot 16, through which passes a pin or bolt 17, extending across the longitudinal slot 18 of the beam 5. This particular manner of mounting the arm 13 admits of the latter moving longitudinally and vertically, so as to adapt itself to the relative position of the catch-hoop when the latter is drawing upon the barrel or article being headed, thereby permitting the catch-hoop to remain horizontal or level during all stages of its movement. The arm 13 is longitudinally slotted and is provided at its outer or front end with a cross-head 19 to receive the screws or other fastenings 20, by means of which the catch-hoop 14 is detachably connected therewith, so that any size of catch-hoop may be applied to the arm, according to the size of the barrel to be headed.

An arm 21, curved at its outer or front end, has pivotal connection with the link 11 at an intermediate point and is longitudinally slotted, and its rear end is pivoted to the lower extremity of a link 22, having a slot 23, which receives a pin or bolt 24, extending across the slot 18 of the beam 5, and this arm has a cross-head 25 at its curved end to which the case-hoop 26 is detachably connected, so that one size may be substituted by another, according to the work in hand. It will be seen that both arms 13 and 21 are carried by the same link 11, and they are so disposed that upon tilting the arms the hoops carried thereby will drop upon the barrel or cask previously placed in position for heading.

The case-hoop 26 is expansible and composed of a series of sections which are held together by means of a spring-band 27 of such construction as to admit of the sections separating, whereby the case-hoop will adapt itself to any variation of size of the head-hoop 28. The case-hoop has an inner flange 29 at its upper edge to extend over the head-hoop 28 and cause the latter to be drawn snugly upon the staves by means of the drivers 1 or other means provided for this purpose. A groove or channel 30 is formed in the outer side of the case-hoop and receives the spring-band 27, thereby retaining the latter in place, and the latter in turn serving to hold the sections of the case-hoop in proper position. The spring-band is formed preferably of a stout wire coiled twice upon itself and having the convolutions lying side by side in the groove or channel 30, as most clearly indicated in Fig. 7, the ends of the wire being separated so as to admit of the case-hoop expanding and contracting. A

groove or seat 31 is formed in the bottom of the channel 30 and extends to within a short distance of the ends of the respective sections and receives studs 32 at the ends of spring tongues or strips 33, placed in the channel 30 and serving, in connection with the spring-band 27, to hold the sections in alignment. By having the studs 32 operating in the grooves 31 the spring tongues or plates 33 are held in such relation as to overlap the joint between the ends of contiguous sections.

The invention provides a means for holding the catch and case hoops within convenient reach of the cooper and prevents their accidental displacement and facilitates the work of hooping and heading barrels, casks, &c. A barrel to be headed is placed in position and the catch-hoop is fitted thereto in the ordinary manner and is forced home by the drivers 1 or other means. The head-hoop 28 is now placed upon the end of the barrel and the case-hoop is fitted thereto and reinforces the head-hoop by encircling the same, as clearly shown in Figs. 2 and 7, and the power for forcing the head-hoop home is applied directly to the case-hoop, as indicated in Fig. 2, the case-hoop serving to reinforce the head-hoop and prevent injury thereto during the driving operation. After the head-hoop has been driven home the case and catch hoops are loosened by tapping the sides of the barrel or in any of the usual ways, and are elevated and held up out of the way by means of the weight 7 and the superior weight of the arms 13 and 21, the latter tilting on their pivotal connections with the link 11 and the beam 5 tilting on its pivotal connection with the upright 3. As clearly indicated in Fig. 7, the lower edge portion of the case-hoop engages with the lower portion of the head-hoop, thereby strengthening and bracing it at a point where it is subjected to the greatest strain.

The part 26 is designated by the term "case-hoop" because of its function. In coopering the flat hoops are generally forced home upon the barrel or other package by differently-formed drivers applying their force directly to the top edge of the hoops, thereby frequently bending, cracking, and otherwise injuring the hoop. The part 26, being composed of a plurality of rigid or inflexible sections and designed to receive the hoop to be driven, braces, strengthens, and stiffens said hoop and prevents injury thereto in the driving process and, surrounding, inclosing, or receiving the hoop to be driven, is aptly termed "case-hoop" and will be so designated in the claims.

Having thus described the invention, what is claimed as new is—

1. In a barrel-hooping machine, an expansible case-hoop for reinforcing the hoop to be driven composed of a plurality of sections, and means in the plane of the hoop overlapping the joint between the sections and holding them in alignment and admitting of their



relative movement, whereby provision is had for the expansion of the hoop, substantially as set forth.

2. In a barrel-hooping machine, an expandible case-hoop for reinforcing the hoop to be driven composed of a plurality of sections each having an inner flange at its top side and the flanges unitedly forming an inner rim to engage over the top edge of the hoop to be forced home, and means in the plane of the hoop and exterior thereto for holding the several sections in alinement and overlapping the joint formed between their meeting ends and allowing for the expansion and contraction of the hoop, substantially as and for the purpose set forth.

3. In a barrel-hooping machine, an expandible case-hoop composed of a plurality of similarly-formed sections having a groove in their periphery, and a spring-band seated in the said groove and overlapping the joint formed between the sections and adapted to hold them in alinement and admit of their expansion when forced upon the barrel or package, substantially as set forth.

4. In a barrel-heading machine, the combination of a support, an arm carrying a catch-hoop, a link having pivotal connection with the rear end of the arm and a pivotal and slidable connection with the support, a second link, and means for pivotally and slidably connecting the second link with the said arm and support, substantially as and for the purpose set forth.

5. In a barrel-heading machine, the combination of a support, a link, arms attached to and carried by the said link and bearing a catch and a case hoop, respectively, and other links having pivotal connection with the rear ends of the said arms and pivotal and slidable connection with the said support, substantially as set forth.

6. In combination, a counterbalanced beam, an arm bearing a hoop, and links connecting the arm with the counterbalanced beam, substantially as and for the purpose set forth.

7. In combination, a beam, a weight adjustably connected with the beam and shiftable toward and from the fulcrum thereof, a link having pivotal and slidable connection with the beam, an arm bearing a catch-hoop having pivotal and slidable connection with the said link, a second arm bearing a case-hoop having

pivotal connection with the said link, and other links having pivotal connection with the rear ends of the arms and pivotal and slidable connection with the beam, substantially as set forth.

8. In combination, a frame, a beam having adjustable connection with the frame, a weight adjustably connected with one end of the beam, a link having pivotal and slidable connection with the opposite end of the said beam, an arm bearing a catch-hoop and having pivotal and slidable connection with the link, a second arm bearing a case-hoop having pivotal connection with the link, and other links having pivotal connection with the rear ends of the arms and pivotal and slidable connection with the beam, substantially as set forth for the purpose described.

9. In a barrel-hooping machine, a case-hoop composed of a plurality of sections having a channel in their exterior forming a seat, a strip overlapping the joint formed between the sections to hold them in alinement and located in the said seat, and a spring-band seated in the channel and holding the several strips and sections in place, substantially as set forth.

10. In a barrel-hooping machine, a case-hoop composed of a plurality of sections having a channel in their periphery and a groove communicating with the channel, strips overlapping the joints between the sections and interlocking at their ends with the grooves formed in adjacent sections, and a spring-band holding the sections together and retaining the strips in place, substantially in the manner set forth for the purpose described.

11. A case-hoop composed of sections having a channel and grooves in the bottom of the channel terminating short of the ends of the sections, spring tongues or strips fitted in the channel and having studs operating in the grooves, and a spring-band holding the sections together and the said strips in place, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

MELVILLE CHALMERS WILSON.

HENRY GEORGE RUSH.

Witnesses:

E. W. RUSS,

J. W. RYNDE.