

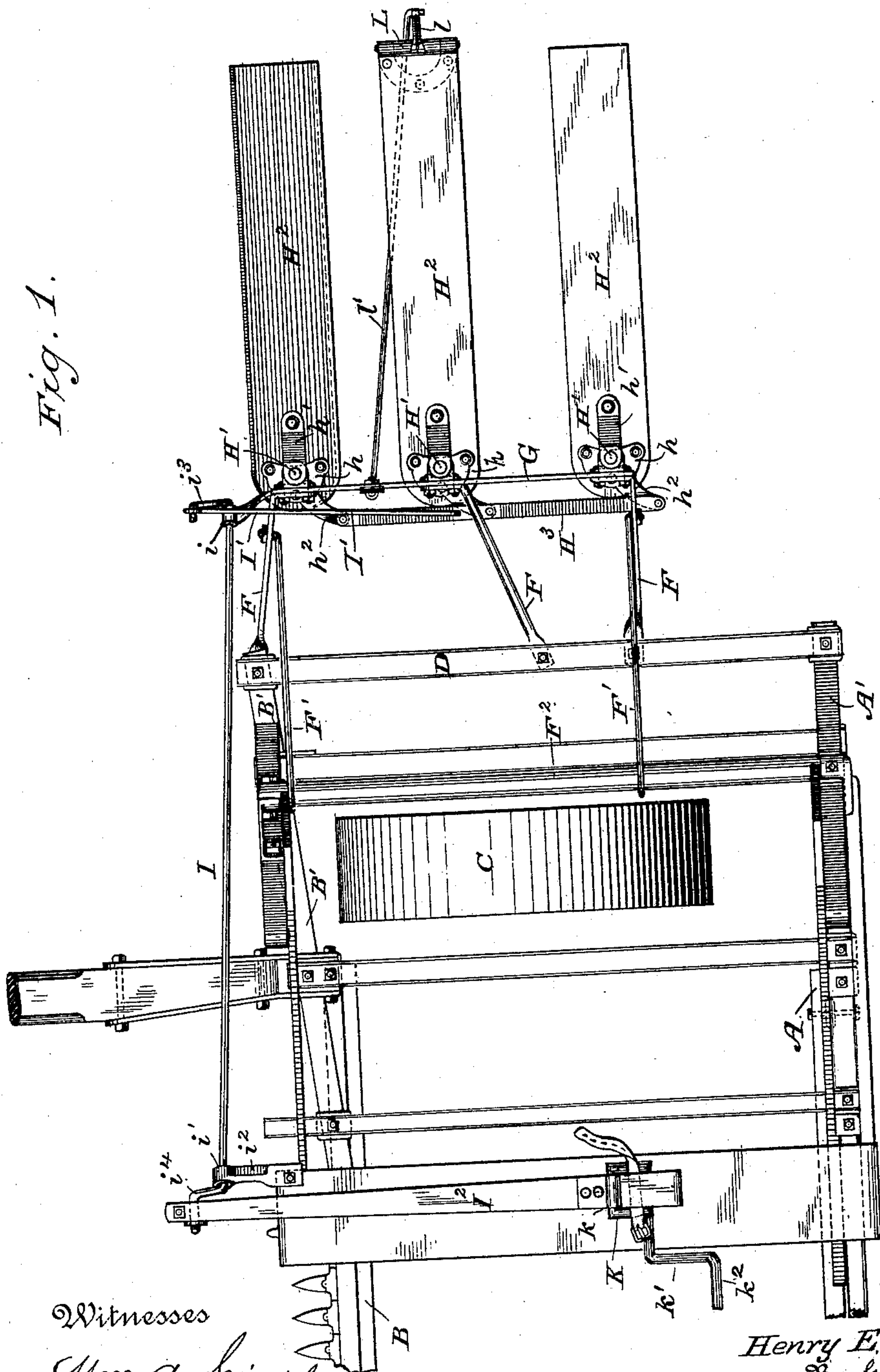
(No Model.)

H. E. PRIDMORE.
SHEAF CARRIER.

Patented Dec. 31, 1889.

No. 418,222.

Fig. 1.



Witnesses

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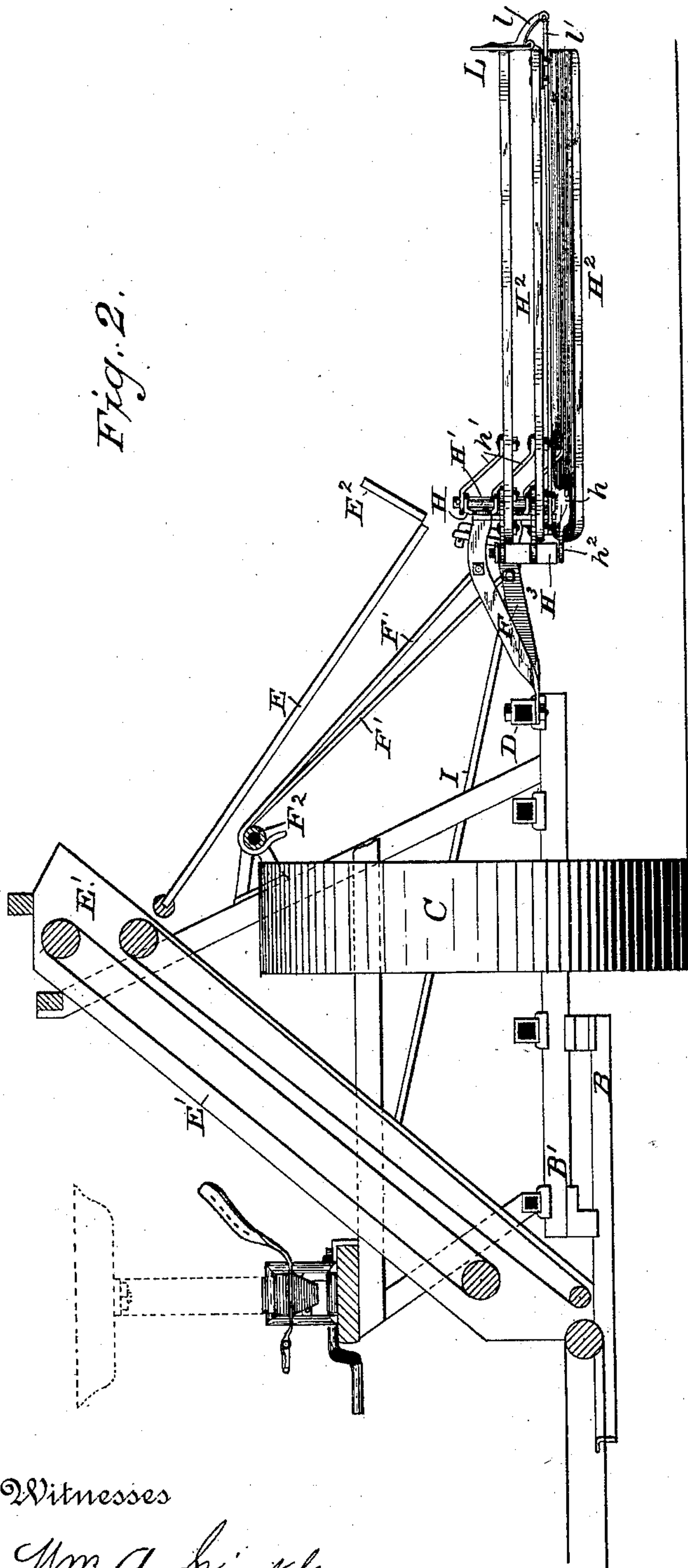
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6 Sheets—Sheet 2.

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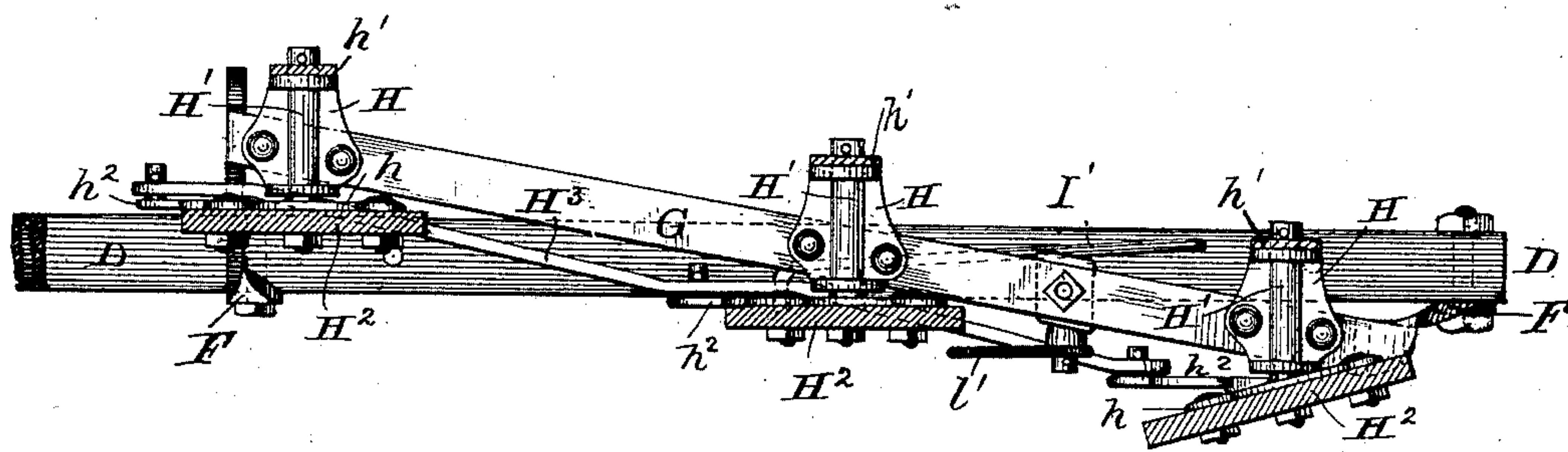
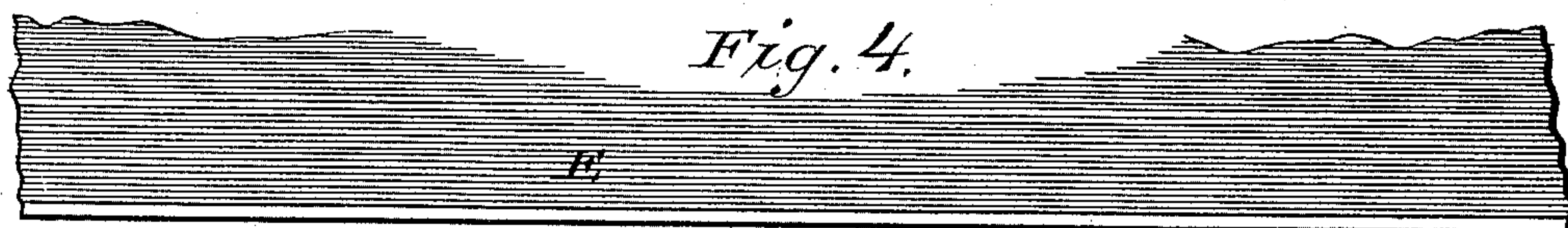
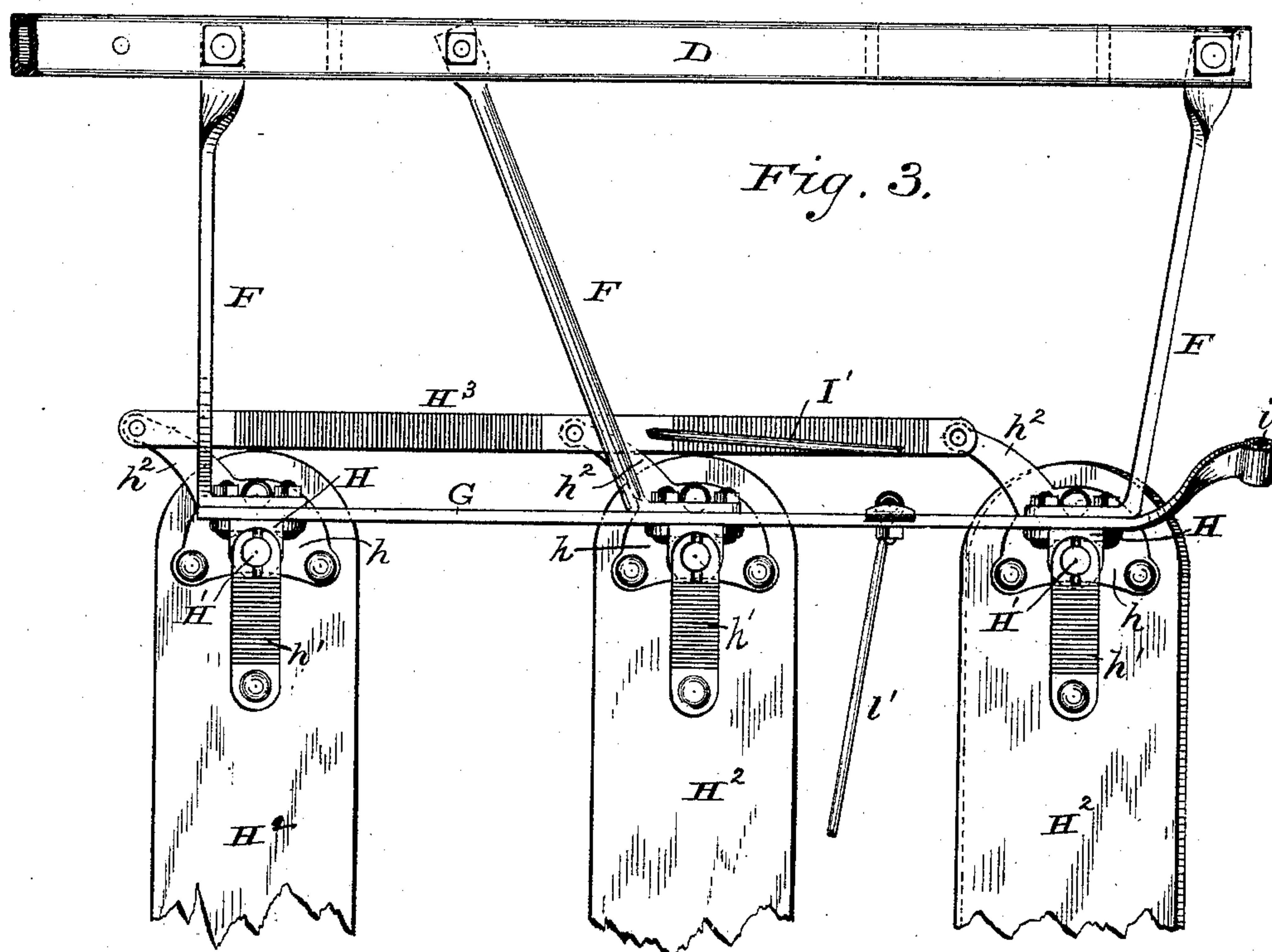
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6 Sheets—Sheet 4.

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Fig. 5.

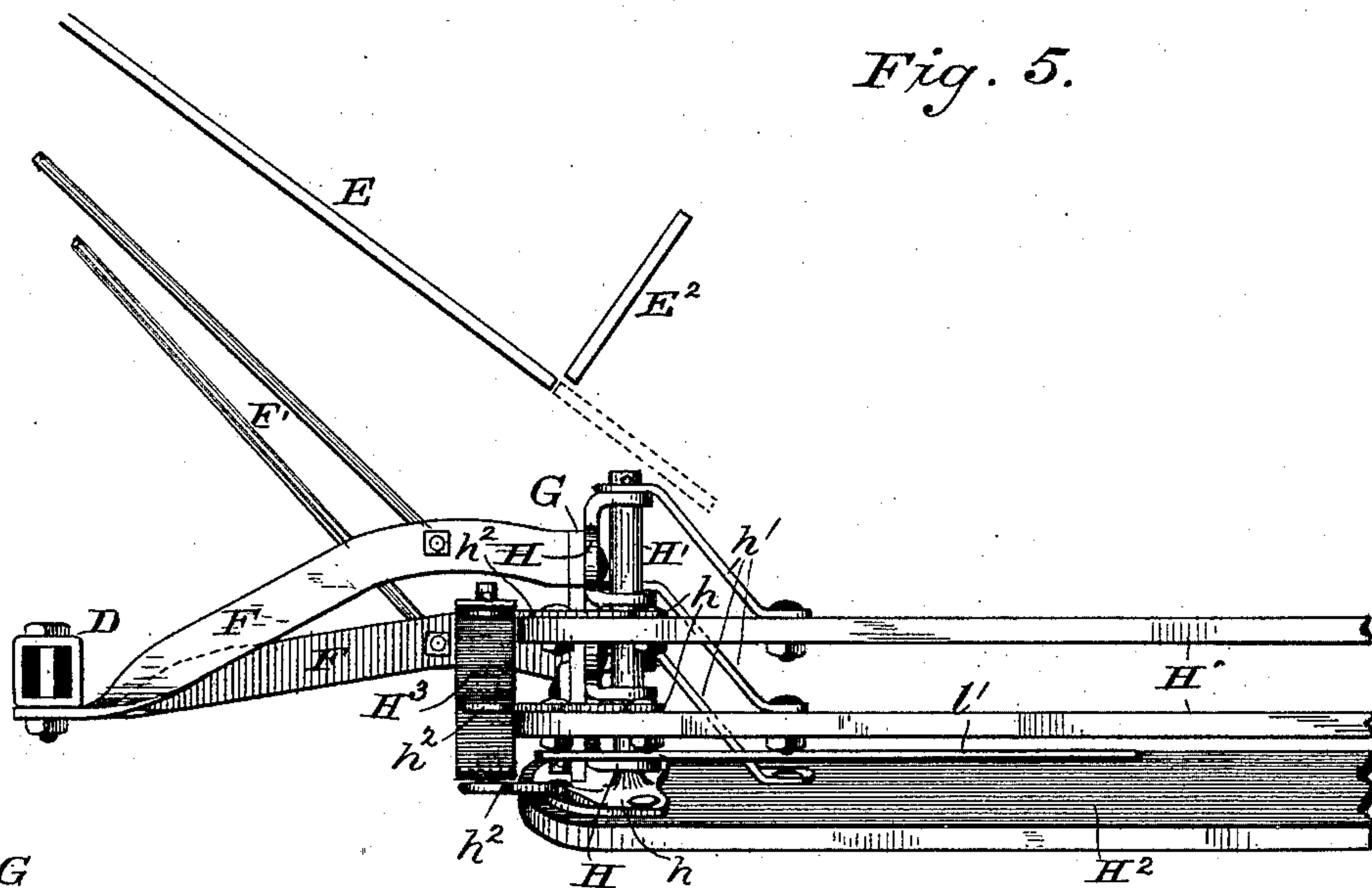


Fig. 6.

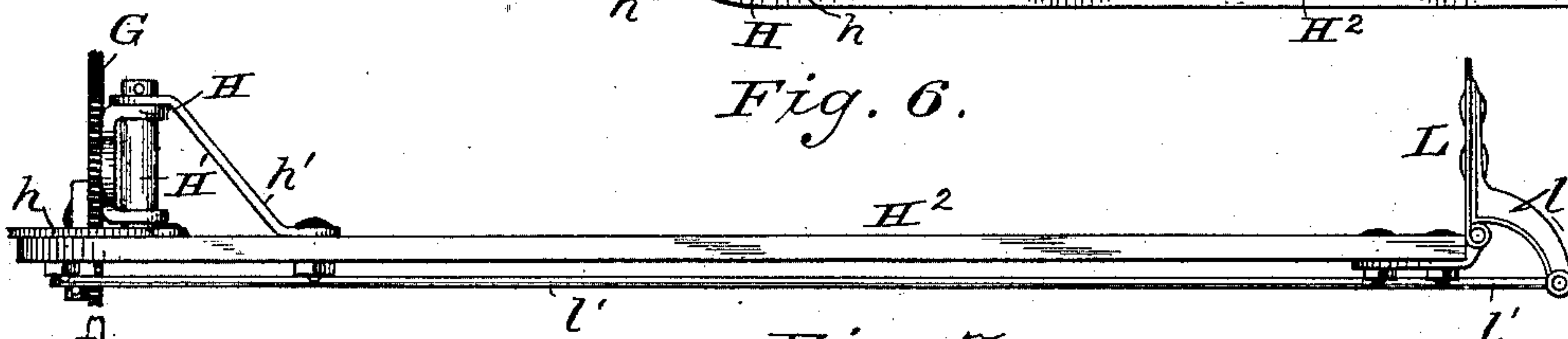


Fig. 7.

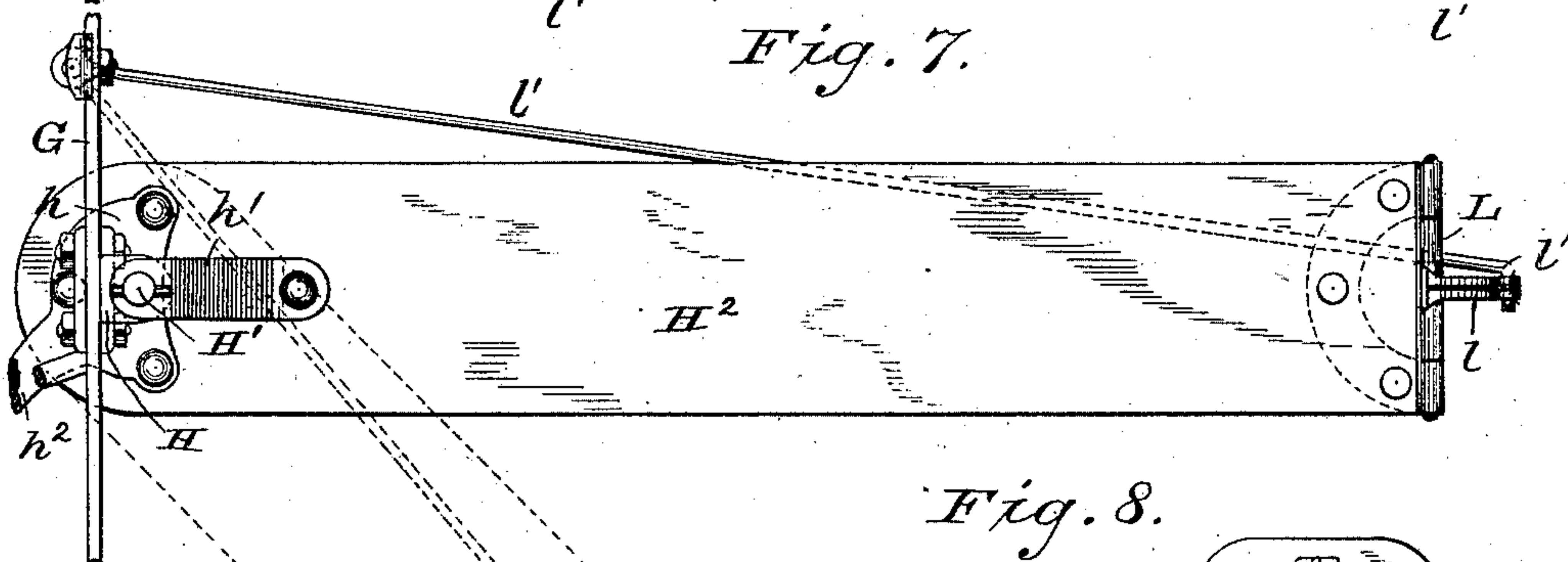
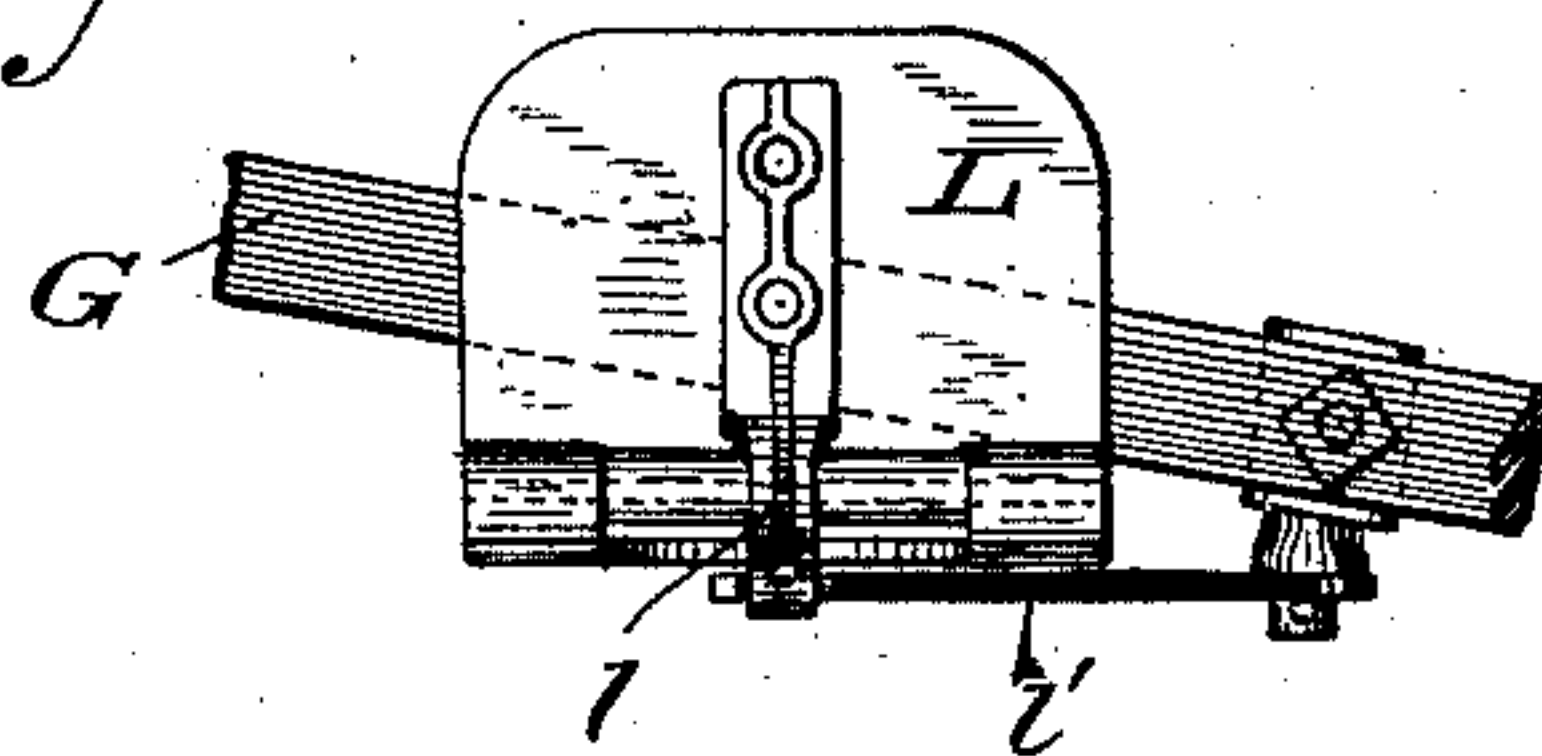


Fig. 8.



Witnesses

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(No Model.)

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Fig. 9.

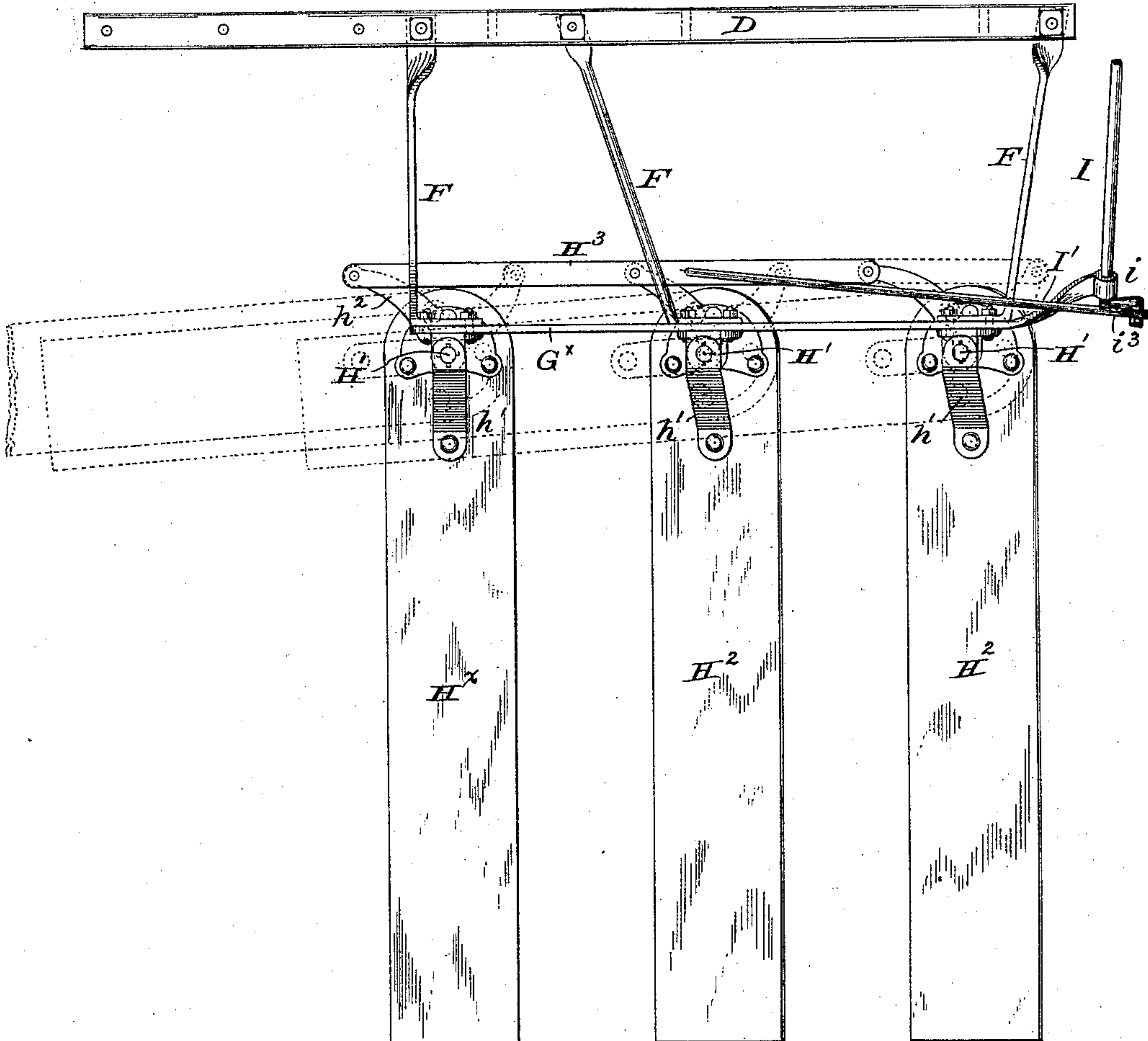
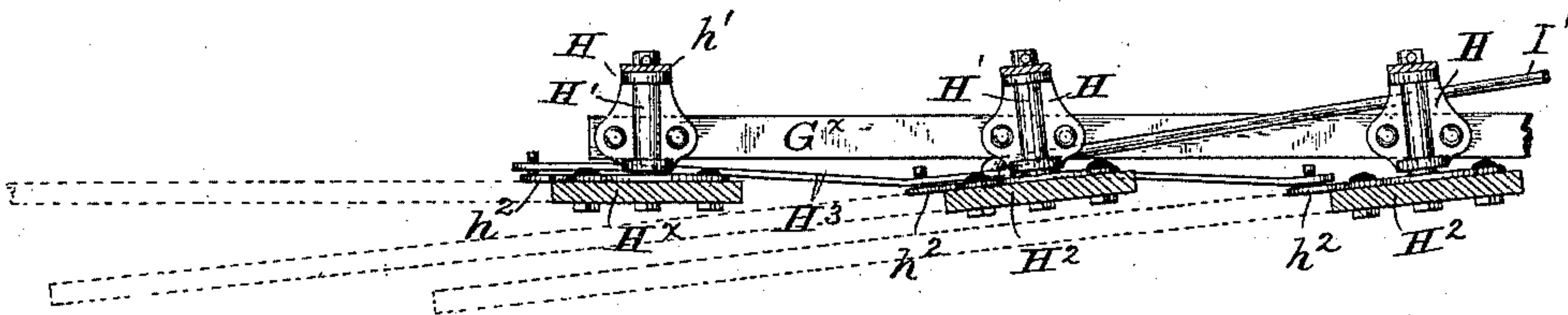


Fig 9a



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6 Sheets—Sheet 6.

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Fig. 10.

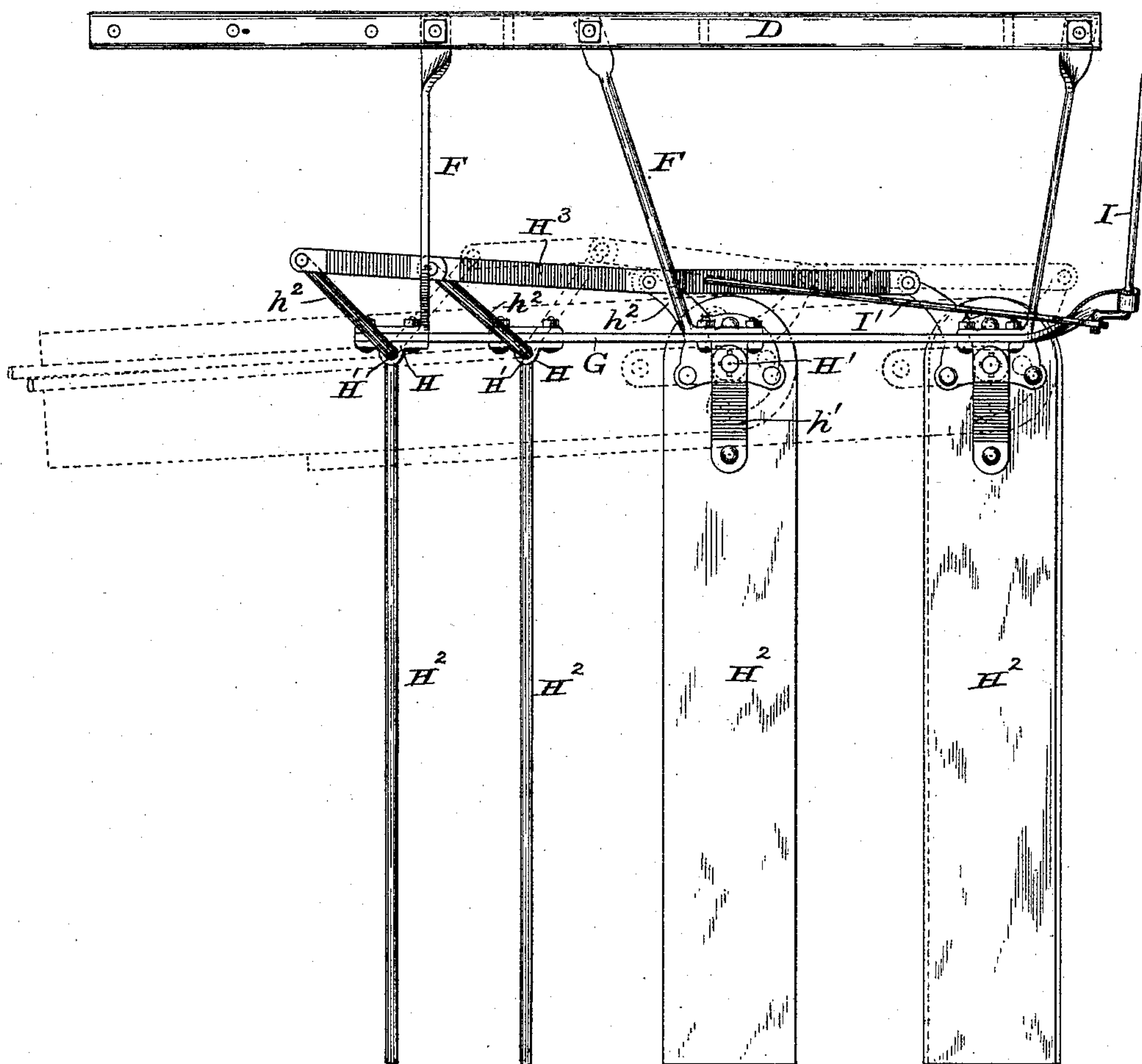
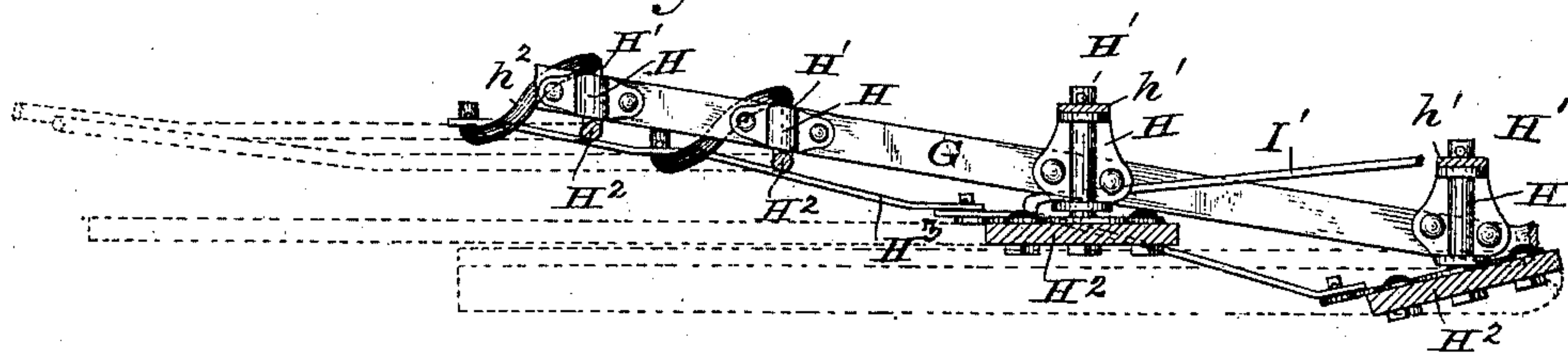


Fig 10^a



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY E. PRIDMORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MCCORMICK HARVESTING MACHINE COMPANY, OF SAME PLACE.

SHEAF-CARRIER.

SPECIFICATION forming part of Letters Patent No. 418,222, dated December 31, 1889.

Application filed September 15, 1888. Serial No. 285,528. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. PRIDMORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sheaf-Carriers, of which the following is a specification.

In recent years it has become the custom to provide automatic grain-binders with sheaf-carrying attachments, whereby the sheaves or bundles are permitted to accumulate and are carried with the machine until the proper point is reached for dumping them. Some of these carriers have tilted on an axis transverse to the line of advance of the machine, or have a tilting and at the same time a swinging movement parallel with that line of advance. Others have been endless aprons clutched intermittently to the driven gearing of the machine. Others have been so mounted on an axis parallel or nearly parallel with the line of advance that they swung away from the machine in their dumping movement, leaving a space through which the load was discharged. All of these permanently added to the width of the machine, so that often it became necessary to remove them before passing through gates or into barns. Still other types have been built, however, in which the carrier or the individual slats composing it could be folded back toward the rear more or less, tilting at the same time to allow the sheaves to slide off. In such, however, so far as I am aware, the individual slats or fingers were merely brought to a parallel or nearly parallel position concurrently with their drooping movement and did not shut in past each other.

In my present invention I propose to construct the carrier of two or more independently-pivoted fingers, slats, or boards swinging in different horizontal planes and so arranged that when swung back they will shut in one beneath the other, bringing them into parallelism with the line of advance of the machine and causing each overlying board to become a stripper or ejector for the load on the next underlying. I further propose to apply to the outer end of one or more of these individual slats or boards a pivoted guard or tail-piece rising vertically or nearly vertically

therefrom when the carrier is in its receiving position and automatically opened and brought parallel with said slat as the carrier is swung to the rear to permit the discharge of the sheaves.

In the drawings, Figure 1 is a top plan view of so much of a harvester-frame with a carrier embodying my improvement applied thereto as is necessary to a full understanding of said invention. Fig. 2 is a rear elevation, partly in section, of said harvester-frame and carrier, showing also the elevator-frame and grain-deck. Fig. 3 is a top plan view, enlarged, of a portion of said harvester-frame and of my improved carrier, the outer ends of the slats being broken away. Fig. 4 is a vertical section, on the same scale as the preceding, as are also the subsequent figures, through said carrier, taken on a line parallel with the advance of the team, and showing also a portion of the grain-deck. Fig. 5 is a rear elevation of said carrier, showing also the grain-deck and the outer girt of the harvester-frame. Figs. 6 and 7 are respectively a rear elevation and a top plan view of one of the carrier-slats having the tail-piece applied to its outer end and showing the manner in which said tail-piece is operated. Fig. 8 is an elevation of said slat and tail-piece and controlling mechanism for the latter from the outer end; and Figs. 9, 9^a, and 10, 10^a represent alternative constructions of the carrier.

A represents the rear platform-sill, and A' the rear elevator-sill; B, the front platform-sill and finger-bar, and B' the front elevator-sill of a harvester, these sills, except the front platform-sill, being herein shown as formed of square pipes, as are also the cross-girts of the elevator-frame, but this form being selected only as an exponent of any suitable construction.

C is the main wheel, and D the outer girt, and E represents the grain-deck receiving from the elevator E', and having at its foot or discharge end a tail-board E², as usual in modern grain-binders. Automatic binding mechanism will of course be located over and beneath this grain-deck; but I have not deemed it necessary to show any in the drawings.

Brackets F are bolted to the outside girt D of the frame and project therefrom at different heights, the one to the front being the lowest. These brackets are further supported near their outer ends by means of brace-rods F', hooked over a bar or gas-pipe F², carried upon the outside elevator-struts some height above the sill-frame, which pipe may be one of the supports for the binder attachment. To the outer ends of these brackets is secured a slightly-inclined bar G, ascending from front to rear and having its length parallel or practically parallel with the line of advance of the machine, and its face perpendicular, or nearly so, to the ground.

The brackets and the bar which they support are in the present construction intended to be of metal, but may of course be of wood, to less advantage, however.

The bar G, which may be termed the "carrier-frame bar," has secured to its face at suitable intervals a number of vertical bearing-boxes H, which, owing to the inclined position of the bar G, will be stepped one above the other, as shown in Fig. 4, the lowest being at the front and the highest at the rear. For the purpose of the present description three such boxes have been shown, but a greater number may be provided, if desired, or even two may be sufficient. Into these bearing-boxes enter pivots H', rising from plates h, bolted to the inner ends of boards or slats H², which latter form the supporting-surface of the carrier. In order to better support the slats and prevent their sagging, they are further united to the upper ends of the pivots, after the latter have been inserted in their bearings, by means of metal straps h', bolted at their lower ends to the slats some distance from the pivot, and at their upper ends taking over the pivot-pins above the bearings and held thereon by the securing cotters or keys, which retain said pivot-pins in the bearings.

The pivot-plates have insetting spurs h², which are connected beneath the supporting-brackets by a single rod or bar H³, so that when this rod or bar is moved back and forth it will swing the slats around on their pivots either into position to receive or into position to discharge—that is, when the rod is moved to the front it will swing each slat to the rear; and since the pivot of each individual slat is in line with the pivots of the others and each forward slat is lower than the one to the rear the slats will shut in under each other parallel with the line of advance of the machine, and depending on the position of their supporting-bar, entirely or almost entirely beneath the decking, thus taking up no additional space whatever over that demanded by the machine to which they are attached. In this rearward movement it is obvious that each hinder slat, shutting over each forward and lower one, will tend to push its load off. Thus the carrier becomes self-stripping.

The movement of the carrier is controlled

from the driver's seat by means of a long bell-crank I, mounted in a bearing i at the forward end of the bar which supports the carrier, and also at the other end in a bearing i' on a bracket i², projecting from the seat-plank of the machine or over a suitable part of the frame. The crank i³ at that end adjacent to the carrier is connected by a link I' with the operating-rod pivoted to the spurs from the carrier pivot-plates, while the crank i⁴ at the other end receives one end of a foot-bar I², extending rearwardly over the seat-plank and journaled upon a wrist-pin from one arm k of a small bell-crank K, the other arm k' of which extends to the rear alongside the inner edge of the seat-plank, and has a foot-piece k², which, when depressed, draws the bar to the rear and sets the slats in position to receive from the binder, while a push by the foot upon the end of the bar carries it to the front and swings the slats back to shut past each other and discharge the bundle.

It will be observed by reference to Fig. 4 that while the rear slats are horizontal when viewed in transverse section, the front slat, or that which receives the butt-end of the sheaf, is inclined transversely toward the rear and the ground. This I have found desirable and practically effectual for the purpose of preventing the load from creeping forward and falling off of the carrier.

In order to guard against any tendency of the sheaves to roll off over the ends of the slats, a tail-piece L is pivoted to the outer end of a central slat, although it will be understood that the other slats may have a similar tail-piece if for any purpose desired. A down-hanger l from said tail-piece is connected by a link l' with the carrier-supporting bar at a point somewhat in advance of the pivot of the particular slat, so that whenever the slat is swung to the rear the link shall draw upon the lug and cause the tail-piece or guard to swing down until it becomes parallel with the slat, so that not only may the load be discharged but the slat be able to pass beneath the ones to the rear. When swung forward again, the link will push upon the lug and swing the tail-piece up again to the vertical position.

It will be understood that I do not intend to limit myself to the precise and specific construction herein described, since it is obvious that many changes may be introduced into the frame-work and even into the controlling and operative mechanism without departing from the spirit of my invention. For instance, instead of arranging the carrier-supporting bar or frame-bar at an inclination, it may be placed horizontally fore and aft, as in Fig. 9, where G^x represents said bar, and while the pivot for the rear slat or arm H^x of the carrier is vertical the pivots for the forward slats or arms may be just sufficiently inclined to cause them to shut beneath the rear ones when swung back to discharge, as in Fig. 9^a, and such arrangement has the effect

to slightly tilt the forward slats transversely when in their receiving position without primarily arranging them obliquely to their pivots, as is the case with the forward slat in the first-described construction.

In Fig. 10 the carrier-frame bar is still slightly but not so much inclined as in the first construction, and the two rear arms are mere rods or fingers swinging on vertical pivots and shutting up against and parallel with each other. The next arm in advance is composed of a slat and swings, also, on a vertical pivot, which may be in line with the others to bring this arm parallel with and beneath the two to the rear when swung back, as in Fig. 10^a, and the front arm may either be on a dropped pivot, as in Fig. 4, or on an inclined pivot, as shown, to cause it to shut beneath the others to the rear and at the same time be tilted transversely to prevent the sheaves from traveling to the front. In the latter two figures the lever-arms or inset spurs of the fingers are longer than those from the slats. Therefore the bar H³ is jointed at the pivots, as shown, to permit a knuckling movement.

Other modifications will readily suggest themselves to those skilled in the art.

I claim—

1. The combination, substantially as hereinbefore set forth, to form a sheaf-carrier, of a series of normally-parallel slats or fingers, individual pivots for each finger, arranged practically as described, that the forward fingers may be closed beneath those to the rear, and a common actuating device for all the fingers.

2. The combination, to form a sheaf-carrier, and with the grain-deck of an automatic grain-binder, of a series of slats or fingers normally parallel with the line of delivery of the deck and with the slot at the butt or forward end at an inclination transversely, individual pivots for each finger, arranged practically as

described, that the forward fingers may be closed beneath those to the rear, and a common actuating device for all the fingers, whereby they are swung in unison.

3. The combination, to form a sheaf-carrier, of a series of slats or fingers normally parallel with the line of reception, an independent vertical pivot for the rear slat or finger, and independent upstanding pivots for the remaining slats, arranged practically as described, whereby they are successively shut beneath the others when swung to said discharge position.

4. The combination, in a sheaf-carrier, of a series of slats or fingers normally parallel with the line of reception, independent pivots for each slat, a common controlling device, whereby they are swung on said pivots toward a closing-point, an upstanding guard or tail-piece hinged to the outer end of one of said slats, and a link connecting said guard with the supporting-frame at a point eccentric to the pivot of the individual slat, whereby the guard will be thrown down as the carrier is swung from the receiving to the dumping position.

5. The combination, with the harvester-frame and with the binder, of the inclined carrier-frame bar, the series of upstanding bearings stepped thereon, those to the rear higher than those in front, the series of carrier-fingers pivoted in said bearings, the operating-bar connected to spurs from the inner end of said fingers, and a lever whereby said bar is actuated.

6. The combination of the frame-bar G, the bearings H, the pivots H', the slats or fingers H², the operating rod or bar H³, the hinge-guard L, and the link L', substantially as described.

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Witnesses:

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