

No. 672,720.

Patented Apr. 23, 1901.

F. M. STURGIS.

END GATE.

(Application filed Jan. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. I.

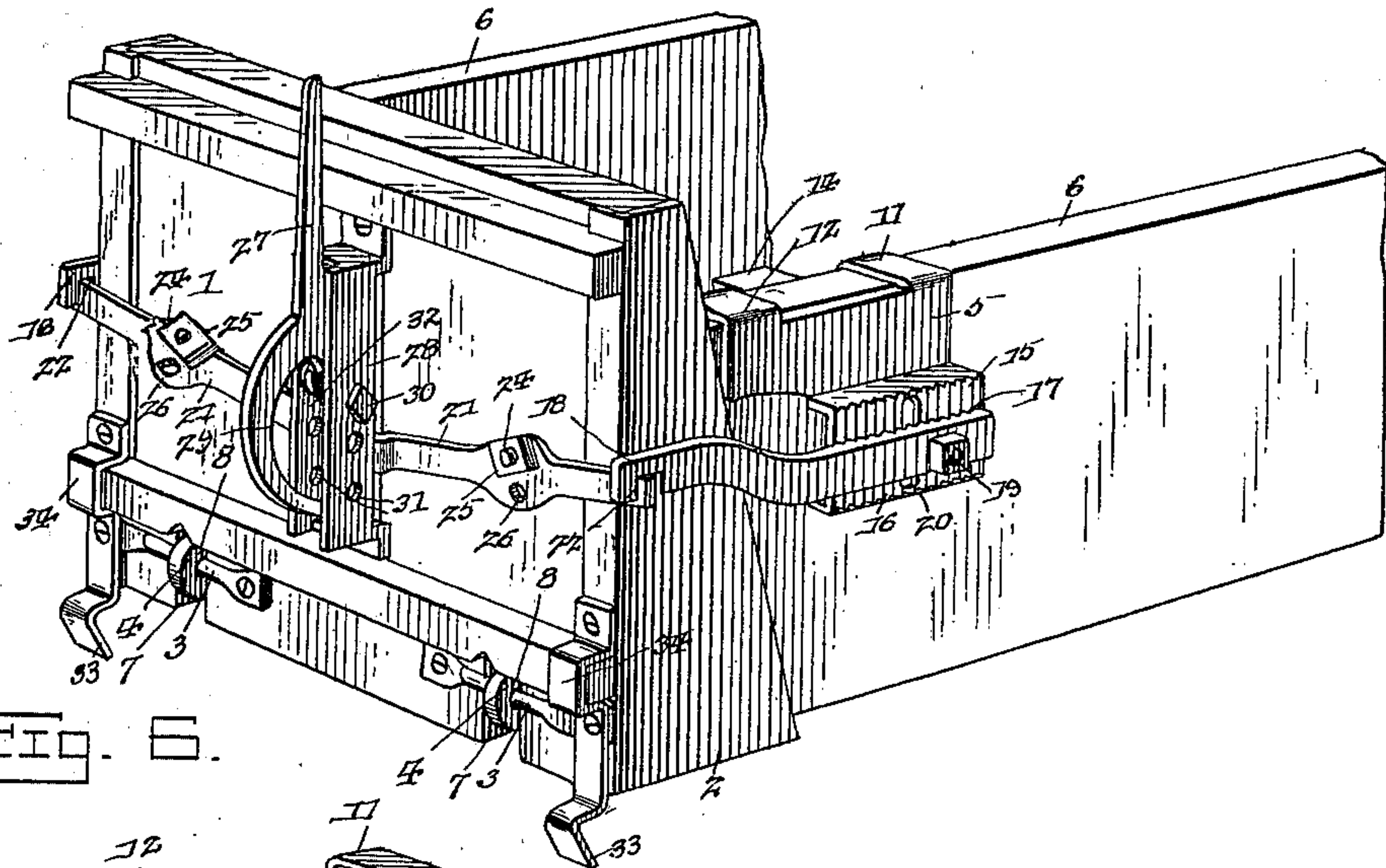


Fig. II.

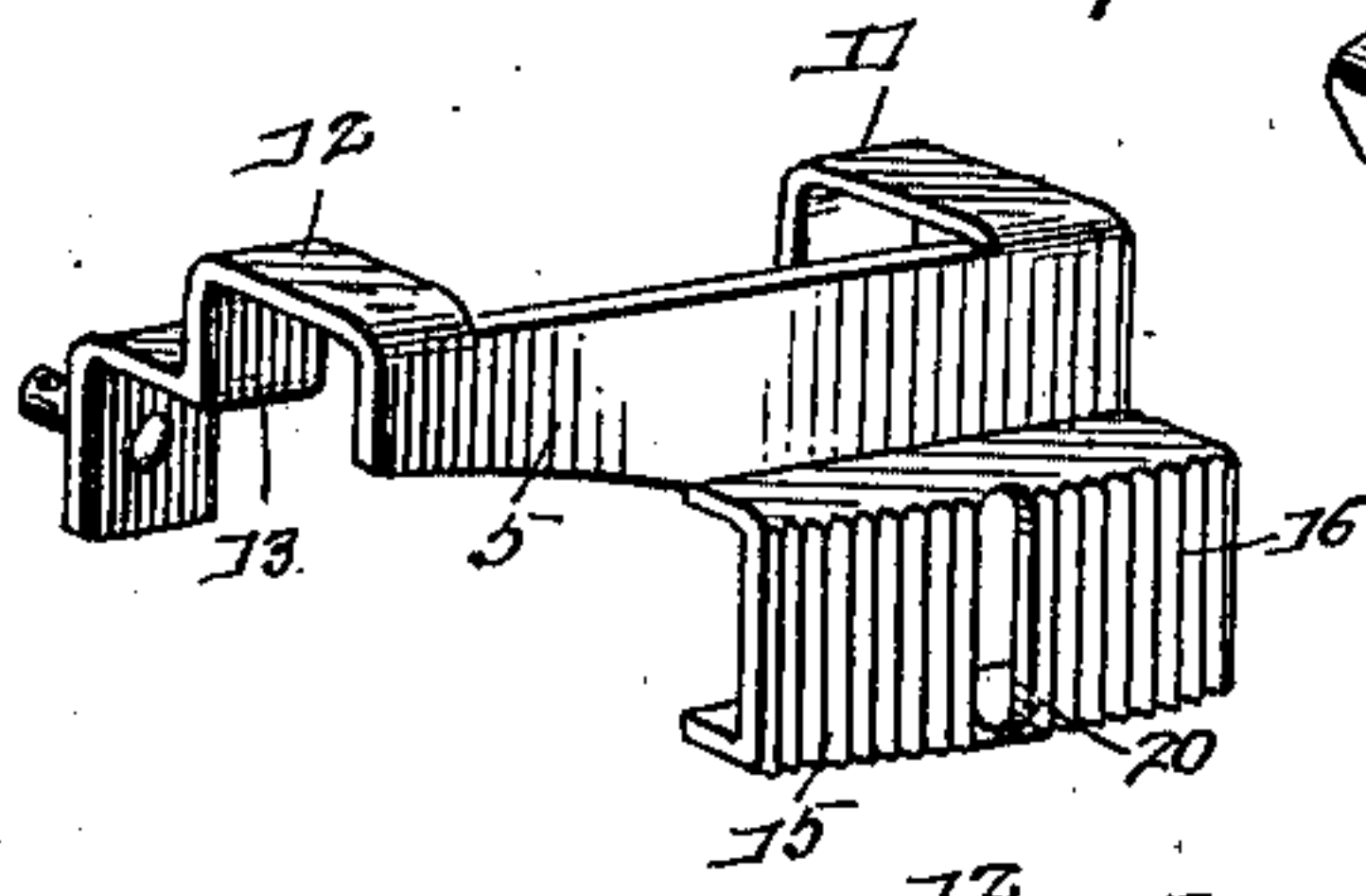


Fig. III.

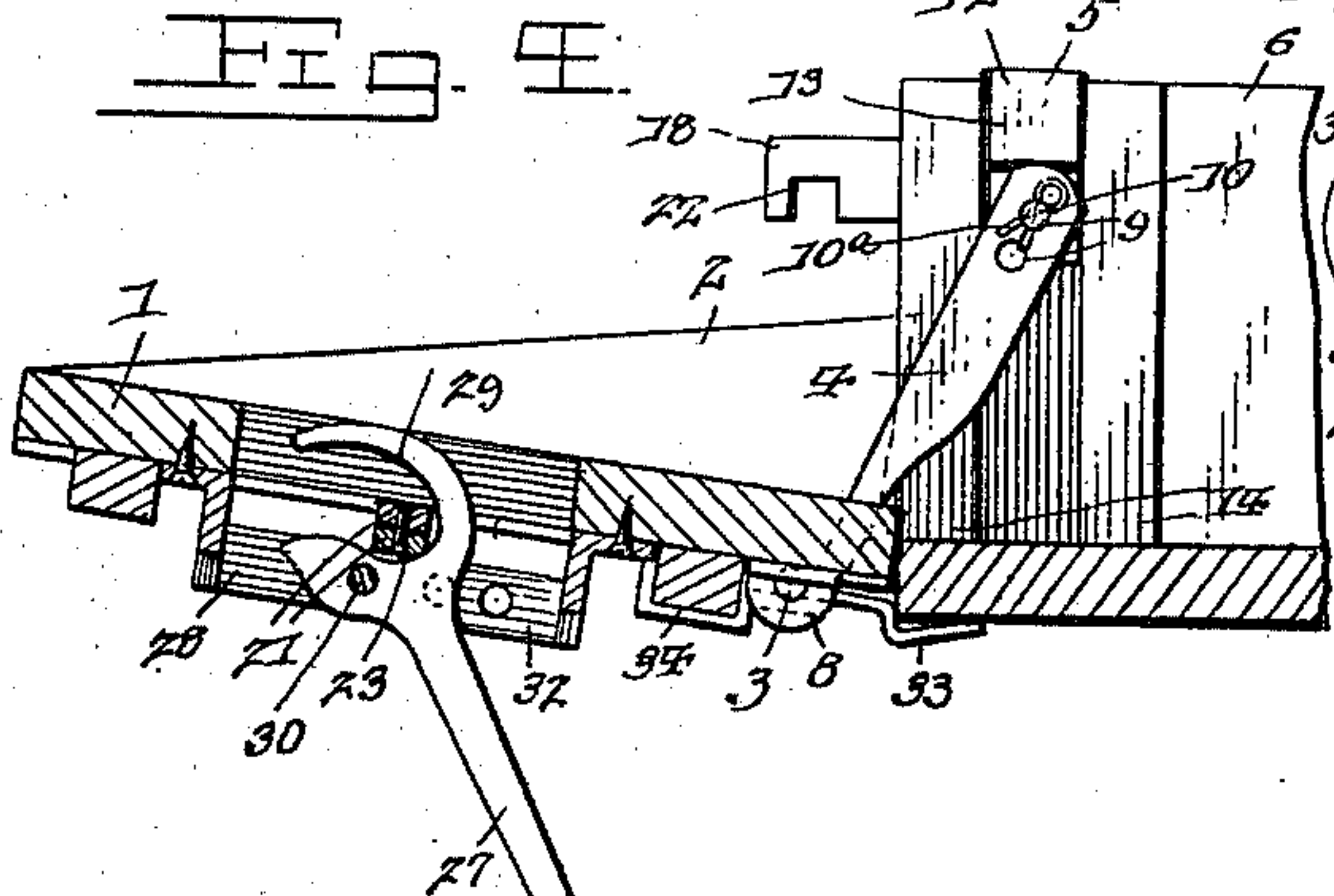
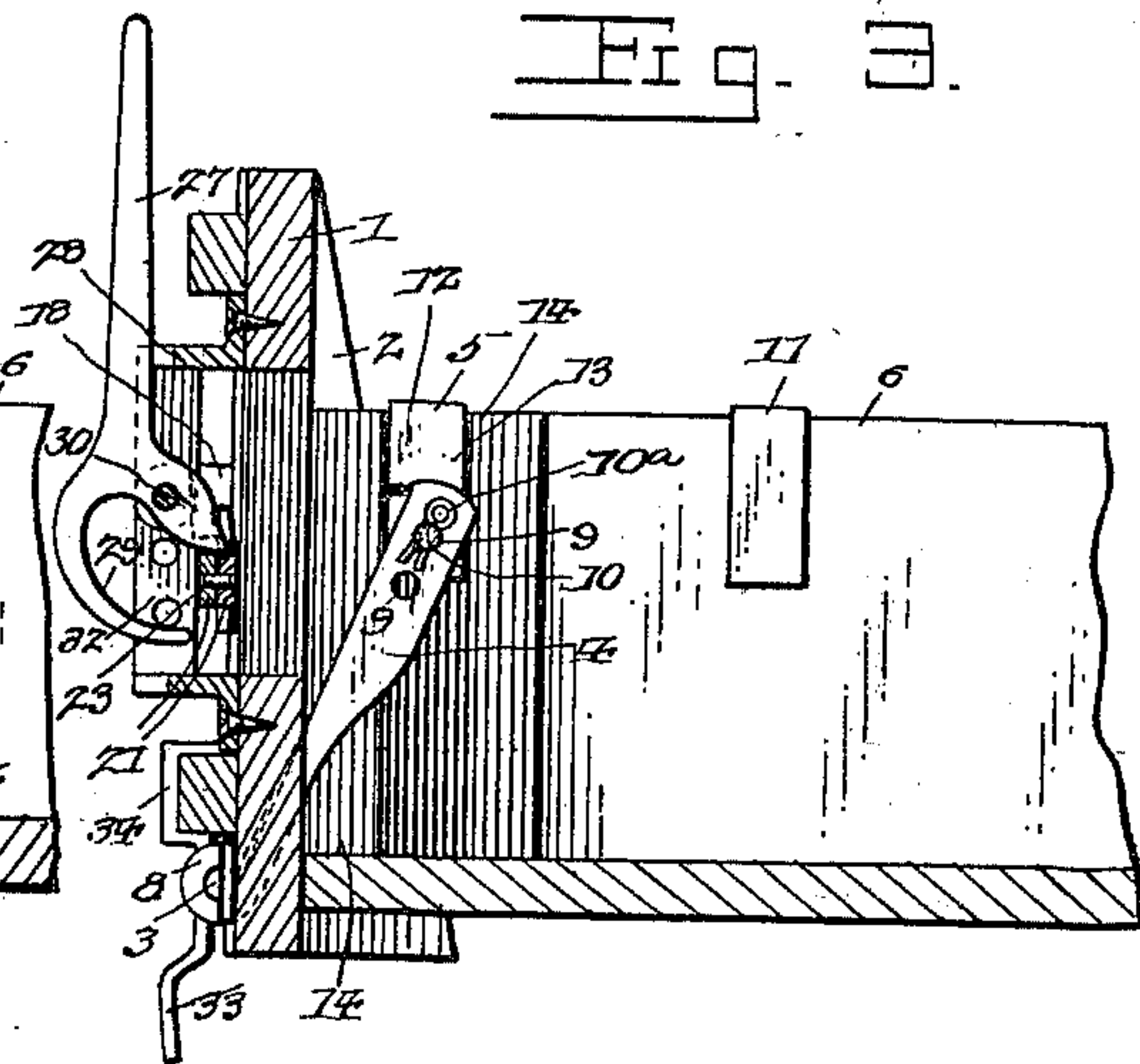


Fig. IV.



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2 Sheets—Sheet 2.

Fig. 2.

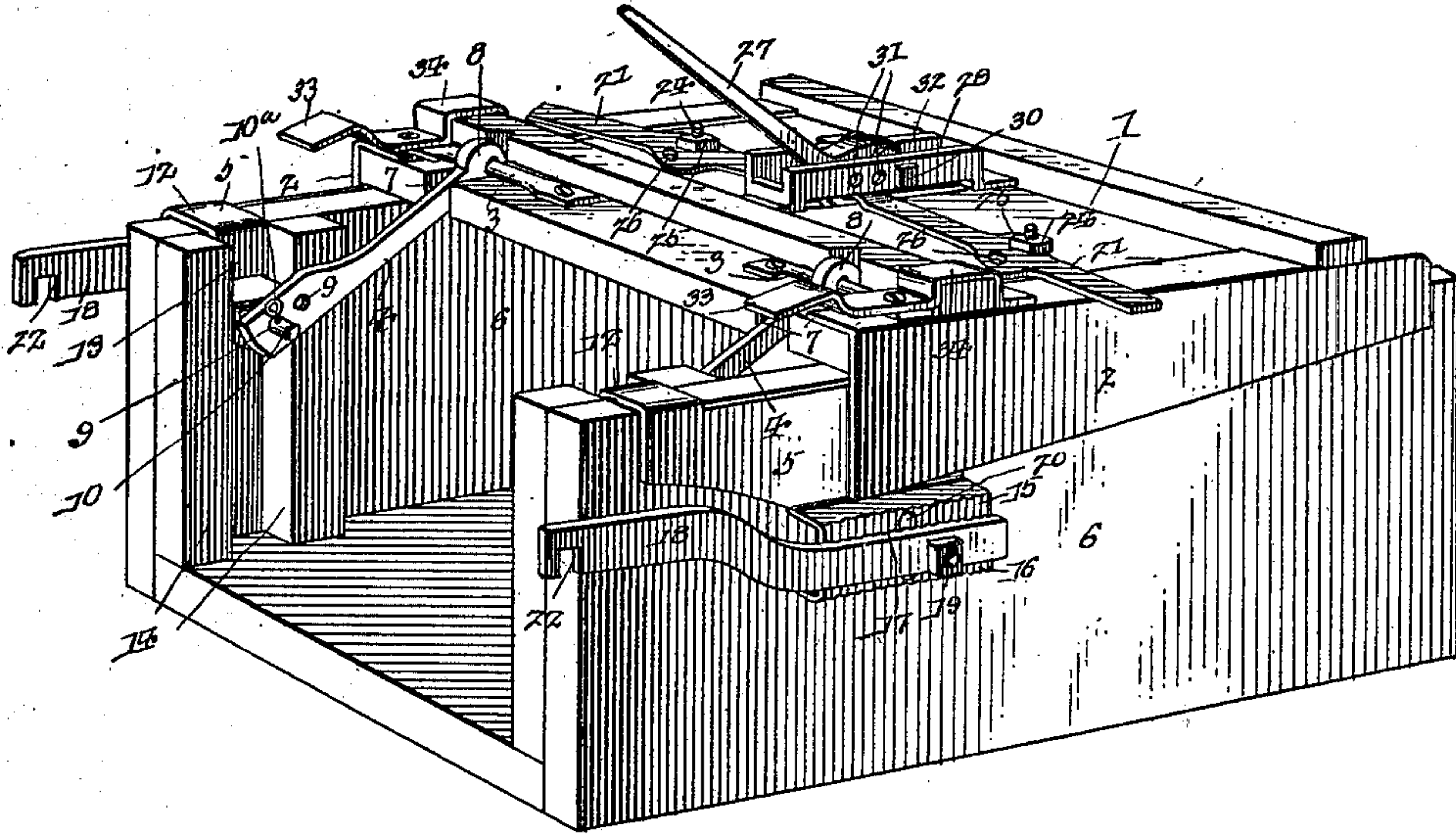


Fig. 5.

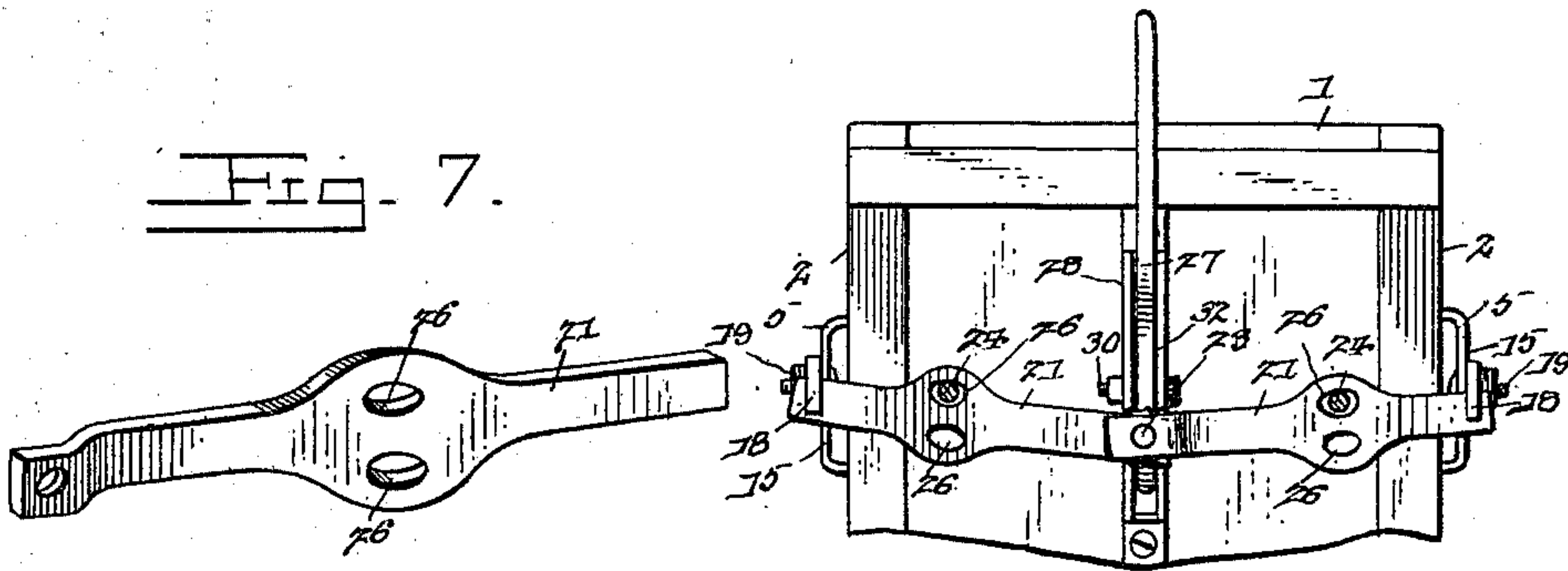


Fig. 7.

Witnesses

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# UNITED STATES PATENT OFFICE.

FRANCIS M. STURGIS, OF SHELBYVILLE, ILLINOIS.

## END-GATE.

SPECIFICATION forming part of Letters Patent No. 672,720, dated April 23, 1901.

Application filed January 25, 1901. Serial No. 44,727. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS M. STURGIS, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Illinois, have invented a new and useful End-Gate, of which the following is a specification.

The invention relates to improvements in end-gates.

One object of the present invention is to improve the construction of end-gates and to provide a simple, inexpensive, and efficient one adapted to be readily applied to wagon bodies or beds of different heights and adapted to be readily lowered to a position for shoveling without necessitating the driver or other person getting off the wagon.

A further object of the invention is to provide an end-gate of this character which will possess great strength and durability and which may readily be swung upward over the wagon-body to arrange the latter for dumping.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a portion of a wagon-body provided with an end-gate constructed in accordance with this invention and arranged in its closed position. Fig. 2 is a similar view, the end-gate being arranged upon the top of the wagon body or bed for dumping. Fig. 3 is a longitudinal sectional view, the parts being arranged as shown in Fig. 1. Fig. 4 is a similar view, the end-gate being lowered for shoveling. Fig. 5 is a detail view illustrating the arrangement of the locking-lever. Fig. 6 is a detail view of one of the hangers. Fig. 7 is a detail view of one of the locking-levers.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an end-gate provided at its sides with suitable wings 2 and connected at its bottom by pintles 3 with the lower ends of links 4, which are pivotally connected at their upper ends with hangers 5 of the sides of the wagon body or bed 6. The end-gate is provided at its bottom with slots 7 to receive the lower ends of the links, and the pin-

tles 3, which extend across the slots, as clearly illustrated in Fig. 1 of the drawings, have their ends enlarged and perforated for the reception of screws or other suitable fastening devices for securing them to the end-gate. The lower ends of the links are provided with eyes or hooks 8, which are closed around the pintles to secure the latter to the links, which are adapted to sustain the weight of the end-gate when the same is in a vertical position, as clearly indicated in Fig. 3 of the drawings. The upper ends of the links are provided with perforations 9 for the reception of pivots 10 of the hangers, and the said links are adjustably secured on the pivots by means of split keys 10<sup>a</sup>. The split keys detachably secure the links on the pivots and permit the former to be adjusted, which adjustment may be effected by arranging the pivots in the different perforations, and the latter may be of any desired number.

The hangers, which are adapted to saddle the upper edges of the sides of the wagon-body, consist of exterior plates provided at their upper edges with hooks 11 and 12, which engage the upper edges of the sides of the wagon-body and which are arranged at the inner and outer ends of the said plates. The outer hook 12 is provided with a depending L-shaped arm 13, arranged between the vertical cleats 14 of the adjacent side of the wagon-body and supporting the pivot 10. The hanger is detachably mounted on the wagon-body and does not require any bolts or other fastening devices for securing it to the sides of the same. Each hanger is provided at the lower portion of the exterior plate with an angularly-bent offset portion 15, having exterior corrugations 16, adapted to be engaged by corresponding corrugations 17 of a latch-bar or keeper 18. The latch-bar or keeper 18, which is arranged at each side of the wagon-body, is adjustably mounted on the angularly-bent offset lower portion of the hanger and is adjustably secured to the same by a bolt 19, having a nut and passing through a vertical slot 20 of the hanger and adapted to be raised and lowered to arrange it at the desired elevation to suit the position of locking-levers 21. The offset slotted portion of the hanger provides a space to receive



the head of the bolt, and when the nut is loosened the keeper or latch-bar 18 may be readily raised and lowered.

The latch-bars or keepers 18 extend rearward beyond the end-gate when the latter is in a vertical position and are provided at their lower edges with recesses 22 to receive the outer ends of the locking-levers 21. The locking-levers are pivotally connected at their inner ends by a rivet 23 or other suitable fastening device, and they are fulcrumed between their ends on the rear or outer face of the end-gate by bolts 24, and they are adapted to be oscillated to carry their outer ends into and out of the recesses of the latch-bars or keepers 18. The bolts 24 are provided at their outer ends with nuts 25, and the levers are enlarged between their ends and are provided with elliptical openings 26. The elliptical openings 26, which are adapted to receive the pivot-bolts 24, permit the locking-levers to be adjusted vertically and provide the necessary longitudinal play to permit the locking-levers, which are pivoted together at their inner ends, to be oscillated vertically.

The levers are operated by a lever 27, fulcrumed in an opening of a vertical bracket 28, which is mounted on the end-gate and which is composed of vertical sides spaced apart to receive the operating-lever. The operating-lever, which has an enlarged engaging portion, is provided with a curved eccentrically-arranged slot or opening 29, forming opposite cams for engaging the inner ends of the levers to raise and lower the same when the operating-lever is oscillated. The sides of the bracket are provided with vertical series of perforations for the reception of a bolt 30, which is adapted to be arranged in any set of the perforations 31 to arrange the operating-lever at the desired elevation. The bracket is provided at its ends with perforated flanges for the reception of fastening devices for securing it to the end-gate, and the latter has a vertical slot or opening 32 to permit the necessary movement of the head or enlarged portion of the operating-lever.

When the operating-lever is swung downward from the position illustrated in Figs. 1 and 3, the outer ends of the locking-levers are swung downward and disengaged from the latch-bars or keepers, and the end-gate is free to swing downward to the position illustrated in Fig. 4. This operation may be effected without necessitating the driver or other person getting off the wagon. The end-gate is supported in the position illustrated in Fig. 4 of the accompanying drawings by the links and by arms or hooks 33, formed integral with straps or shanks 34 and extending from and adapted to prevent the lower edge of the end-gate from rising from the position illustrated in Fig. 4. The projecting arms or hooks, which are substantially L-shaped, abut against the end of the wagon-body and extend beneath the same. When it is desired to arrange the wagon-body for dumping, the end-

gate is adapted to be swung upward to the position illustrated in Fig. 2 of the accompanying drawings, and this may be readily and quickly effected, as it is unnecessary to withdraw the end-gate from ways.

It will be seen that the end-gate is exceedingly simple and inexpensive in construction and that the various devices are adapted to support and strengthen the wagon. The locking-levers extend entirely across the end-gate and are interlocked with the latch-bars or keepers, and when the parts are arranged as shown in Fig. 1 the end-gate is firmly braced and supported. The locking-levers are simultaneously operated by the operating-lever, and they may be readily disengaged from the latch-bars or keepers without necessitating the driver or other person getting off the wagon. The end-gate may be readily lowered to an inclined position to form a shoveling-board, and it is adapted to be readily swung upward over the wagon-body to arrange the parts for dumping.

What I claim is—

1. The combination with a wagon-body, and an end-gate, of hangers detachably mounted on the sides of the wagon-body and provided with means for engaging the same, pivots supported by the hangers and located within the wagon-body, and links arranged within the wagon-body and connected with the pivots and with the end-gate at the bottom thereof and supporting the said end-gate when the same is in a vertical position, substantially as described.

2. The combination with a wagon-body, and an end-gate, of hangers mounted on the wagon-body and provided with hooks for engaging the upper edges of the same, one of the hooks of each hanger being arranged between the cleats of the wagon-body and having depending arms, pivots supported by the arms, and links arranged within the wagon-body and connected with the pivots and with the end-gate at the bottom thereof and supporting the said end-gate when the same is in a vertical position, substantially as described.

3. The combination with a wagon-body having cleats, of an end-gate provided at its bottom with slots and having pintles extending across the slots, the hangers mounted on the sides of the wagon-body and provided with hooks engaging the same and arranged between the cleats, pivots connected with the said hooks, links arranged within the body and connected with the pivots and with the pintles and supporting the end-gate when the same is in a vertical position, and the arms or hooks mounted on the end-gate at the bottom thereof and arranged to engage the bottom of the body, substantially as described.

4. The combination with a wagon-body, and an end-gate, of hangers mounted on the sides of the wagon-body at the top thereof, the links arranged within the wagon-body and connected with the hangers and with the bottom of the end-gate and supporting the lat-



ter when the same is in a vertical position, the keepers rigid with the hangers and located at the outer faces of the sides of the wagon-body, and locking devices mounted on the end-gate and engaging the keepers, substantially as described.

5 5. The combination with a wagon-body, and an end-gate, of hangers mounted on the wagon-body, inner links connected with the hangers and with the end-gate and located at the inner faces of the sides of the wagon-body, the latch-bars or keepers rigid with the hangers and located at the outer faces of the sides of the wagon-body, and the locking-levers extending across the end-gate and connected with each other and engaging the latch-bars or keepers, substantially as described.

6. The combination with a wagon-body, and an end-gate, of latch-bars or keepers rigidly mounted on the wagon-body, the locking-levers fulcrumed on the end-gate and arranged to engage the latch-bars or keepers, and an operating-lever fulcrumed on the end-gate and having an eccentrically-arranged opening receiving the locking-levers, substantially as described.

7. The combination with a wagon-body, and an end-gate, of hangers mounted on the sides of the wagon-body and provided with angularly-bent offset portions having slots, latch-bars or keepers arranged at the outer faces of the sides of the wagon-body, fastening devices passing through the said slots and securing the locking-bars or keepers to the offset portions of the hangers, and locking de-

vices mounted on the end-gate and engaging the locking-bars or keepers, substantially as described.

8. The combination with a wagon-body, and an end-gate, of hangers mounted on the sides of the wagon-body and provided with angularly-bent offset portions having exterior corrugations and provided with vertical slots, the corrugated latch-bars or keepers interlocked with the offset portions of the hangers, fastening devices passing through the said slots and securing the latch-bars or keepers to the said hangers, and locking devices mounted on the end-gate and engaging the latch-bars or keepers, substantially as described.

9. The combination with a wagon-body, and an end-gate, of hangers mounted on the wagon-body, the rigid latch-bars or keepers arranged at the outer faces of the sides of the wagon-body and adjustably mounted on the hangers, the locking-levers adjustably fulcrumed on the end-gate and arranged to engage the latch-bars or keepers, and the adjustable operating-lever mounted on the end-gate and engaging each of the locking-levers, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANCIS M. STURGIS.

Witnesses:

WM. H. CRAIG,  
O. B. FUNK.