

No. 611,786.

Patented Oct. 4, 1898.

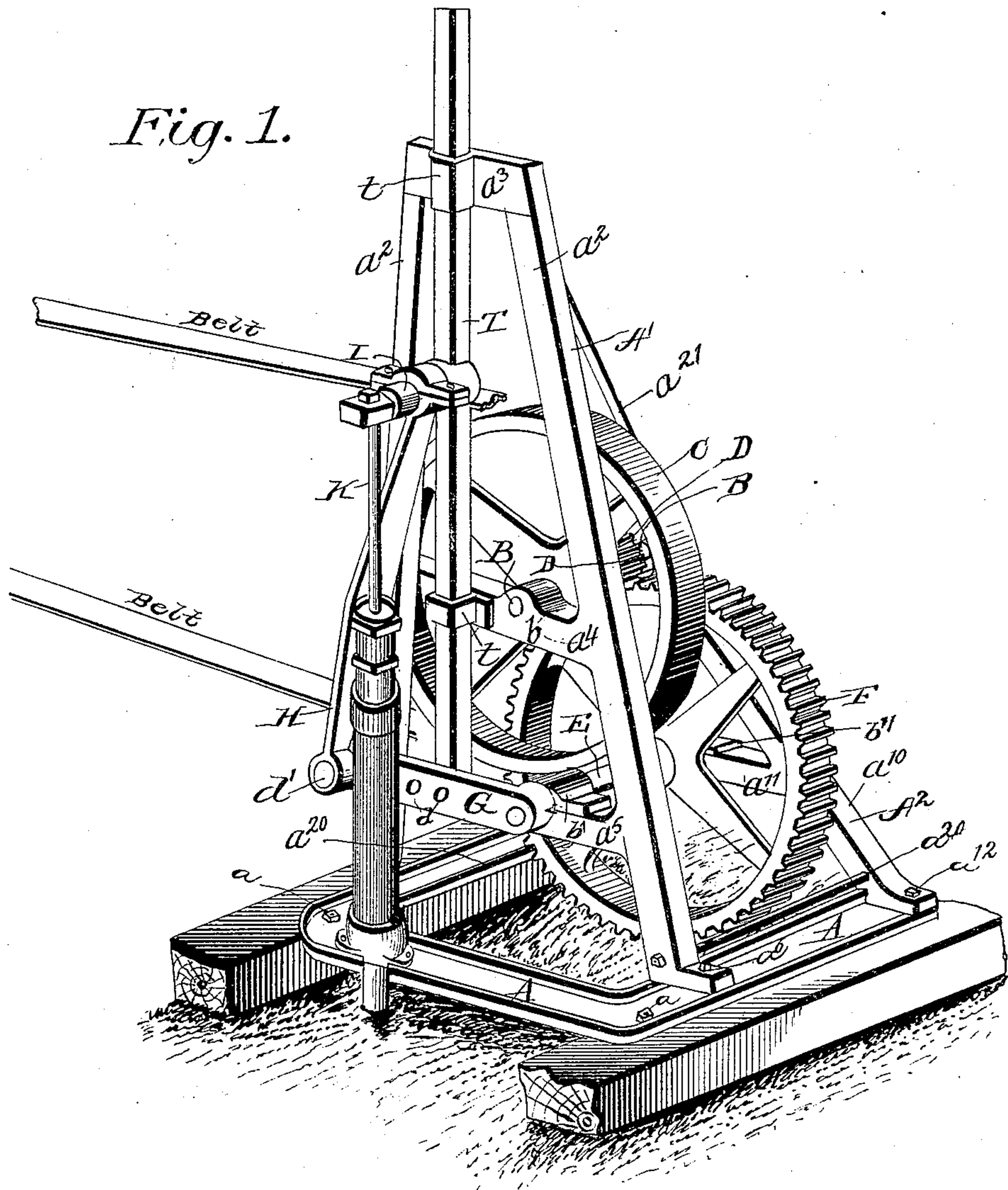
J. H. & E. A. HOLMGREEN.

MEANS FOR TRANSMITTING MOTION.

(Application filed Sept. 8, 1893. Renewed Apr. 13, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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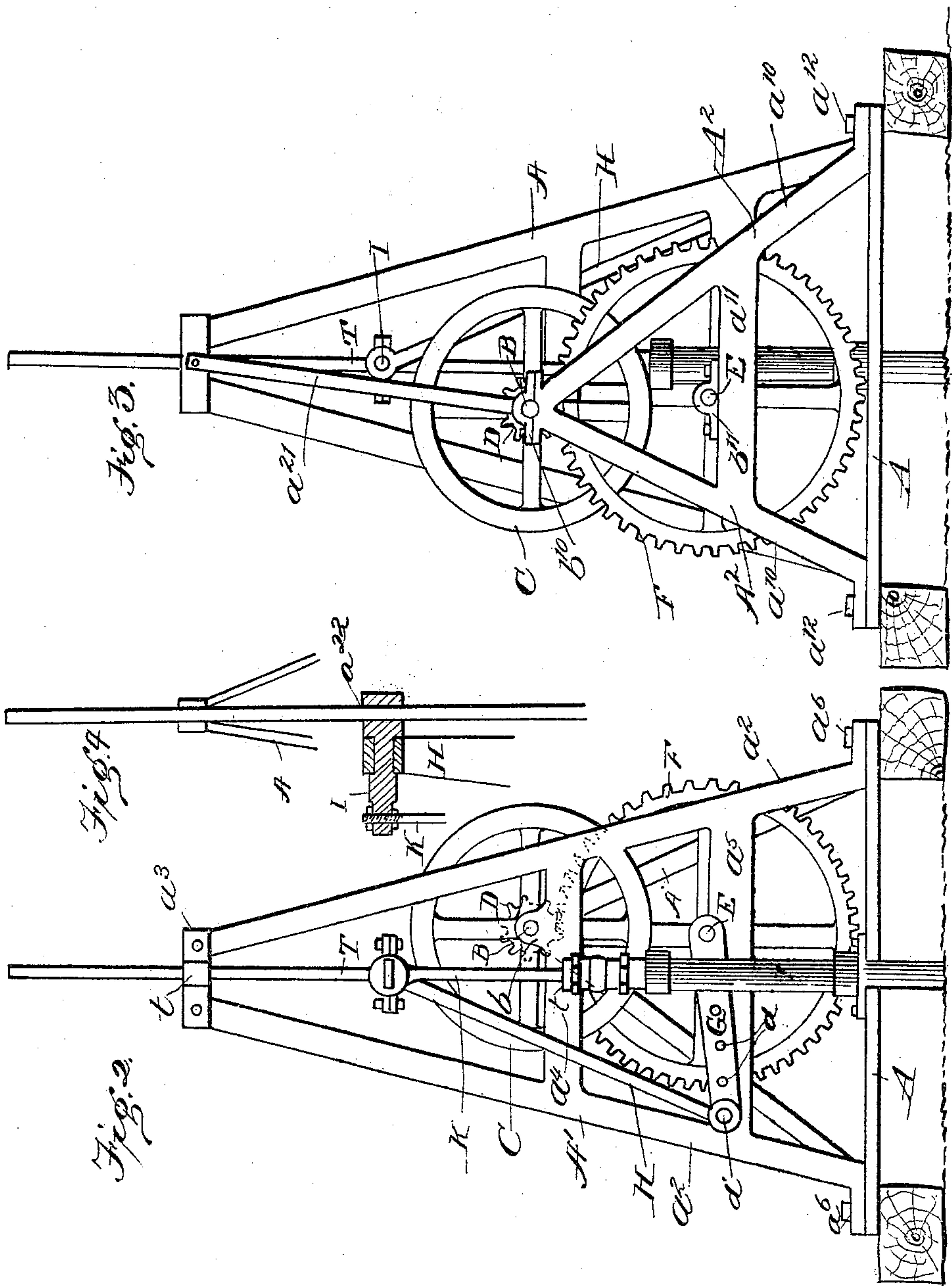
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**2 Sheets—Sheet 2.**



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# UNITED STATES PATENT OFFICE.

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## MEANS FOR TRANSMITTING MOTION.

SPECIFICATION forming part of Letters Patent No. 611,786, dated October 4, 1898.

Application filed September 8, 1893. Renewed April 13, 1898. Serial No. 677,519. (No model.)

*To all whom it may concern:*

Be it known that we, JULIUS HERMAN HOLMGREEN and EUGENE ADOLPH HOLMGREEN, citizens of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Means for Transmitting Motion, of which the following is a full, clear, and exact description, such as will enable those skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The invention relates to improvements in translating devices for converting rotary motion into reciprocating motion, and more particularly to improvements in means for transmitting motion from a motor to a machine operated by the reciprocation of one of its members.

It has for its object the production of such a device in which the several operative parts are held in their proper relative positions, so as not to be liable to displacement, which is of simple construction, conservative in the expenditure of power, and efficient in its purpose.

In the accompanying drawings, Figure 1 is a perspective view of a mechanism embodying the invention and showing the same connected with a pump. Fig. 2 is a side elevation of the same. Fig. 3 is a similar view showing the opposite side of the mechanism. Fig. 4 is a detail view showing the cross-head and its connections.

In the several figures of the drawings similar letters of reference designate corresponding parts.

The base-plate A may be of any construction suitable in the premises. It is, however, preferably made of channel-iron secured to wooden supports by the bolts  $a$ . The main upright frame  $A'$  is substantially triangular in form. It consists of the inclined sides  $a^2$ ,  $a^4$ , and  $a^5$ . It is secured to the base-plate by the bolts  $a^6$ , passing through its feet into the said plate. In the cross-piece  $a^4$  a bearing  $b$  is formed, and the cross-piece  $a^5$  is provided with a journal-box  $b'$ . The supplemental up-

right frame  $A^2$  is also triangular in form, but not so tall as the main frame. It consists of the inclined sides  $a^{10}$ , connected by the intermediate cross-piece  $a^{11}$ . Bolts  $a^{12}$  pass through the feet of the frame and secure it to the base-plate. The upper end of the supplemental frame is provided with a bearing  $b^{10}$  in alignment with the bearing  $b$  in the cross-piece  $a^4$  of the main frame. The intermediate cross-piece  $a^{11}$  is provided with a journal-box  $b^{11}$  in alignment with the journal-box  $b'$ .

The main and supplemental frames are held in their proper relative positions, in addition to their connections with the base-plate, by the tie-rods  $a^{20}$  and the brace  $a^{21}$ . The tie-rods connect the lower ends of the side pieces of the respective frames and the brace connects their tops. By means of this construction the frames are firmly held together and are not liable to be accidentally moved with relation to each other to disturb the alinements of the several bearings.

In the bearings  $b$  and  $b^{10}$  is mounted the shaft B. On the latter is journaled the drive-wheel C, the hub of which is provided with the pinion D.

In the journal-boxes  $b'$  and  $b^{11}$  is journaled the shaft E. A gear-wheel F is secured on the shaft E and meshes with the pinion D. An end of the shaft E projects beyond the journal-box  $b'$  and has mounted thereon the crank-arm G.

Projecting from the cross-pieces  $a^3$  and  $a^4$  of the main upright frame are the brackets  $t$ , in which is mounted the guide-rod T. On the guide-rod is movably mounted the cross-head I. The latter is provided with a recess  $a^{22}$ , with which the guide-rod registers and on which the cross-head moves. Connected with the outer end of the cross-head is a rod K, which in this instance is a pump-rod. The cross-head is reciprocated by means of the pitman H, connecting the said cross-head with the crank-arm G. The crank-arm is secured to the pitman by the pin  $d'$ . By means of the said pin and the holes  $d$  the pitman and the crank-arm can be adjustably connected, and thereby the movement of the cross-head regulated.

In operating the translating mechanism a



rotary motion is imparted to the drive-wheel C and through the pinion D to the gear-wheel F. The latter, through the shaft E, turns the crank-arm F, which, by means of the pitman 5 H, reciprocates the cross-head I and consequently the rod K.

While the hereinbefore-described embodiment of the invention is the preferred one, yet it can be departed from to a considerable 10 extent without departing from the spirit of the invention.

Having thus described the invention, what we claim, and desire to secure by Letters Patent, is—

15 1. In a translating device for converting rotary motion into reciprocating motion, the combination of a base, a main frame mounted on said base, a supplemental frame mounted on said base, means for holding said frames 20 in their relative positions, a shaft mounted in said frames, a driving-wheel journaled on said shaft, a pinion journaled on said shaft and driven by said drive-wheel, a crank-shaft journaled in said frames, a gear-wheel secured on said crank-shaft and meshing with 25 said pinion, a crank-arm carried by said crank-shaft, a guide-rod, a cross-head mounted on said guide-rod, a pitman connecting said crank-arm with said cross-head, a rod

connected with said cross-head and reciprocated by the same. 30

2. In a translating device for converting rotary motion into reciprocating motion, the combination of a base, a main frame mounted on said base, a supplemental frame mounted on said base, means for securing said frames 35 in their relative positions, a shaft secured in said frames, a drive-wheel journaled on said shaft, a pinion journaled on said shaft and connected with said drive-wheel, a crank-shaft journaled in said frames and projecting at one end, a crank-arm carried by the projecting end of said crank-shaft, a gear-wheel secured on said crank-shaft and meshing 40 with said pinion, a guide-rod rigidly secured to said main frame, a cross-head mounted on said guide-rod, a pitman connecting said crank-arm with said cross-head, and a rod connected with said cross-head and reciprocated by the same. 45 50

In testimony whereof we affix our signatures in the presence of two witnesses.

JULIUS H. HOLMGREEN.  
EUGENE A. HOLMGREEN.

Witnesses:

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