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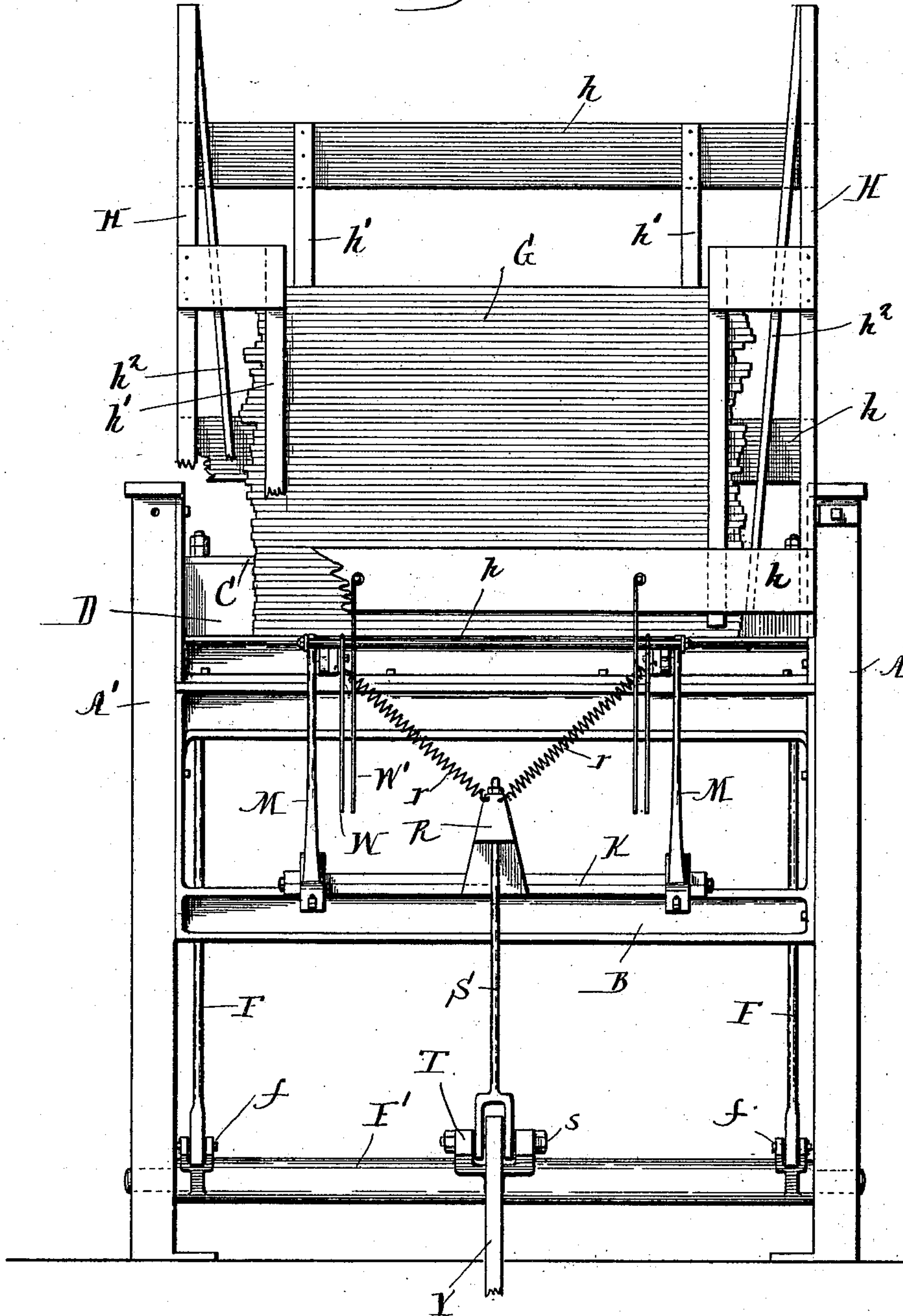
MECHANISM FOR TRIMMING SLATS.

(Application filed July 29, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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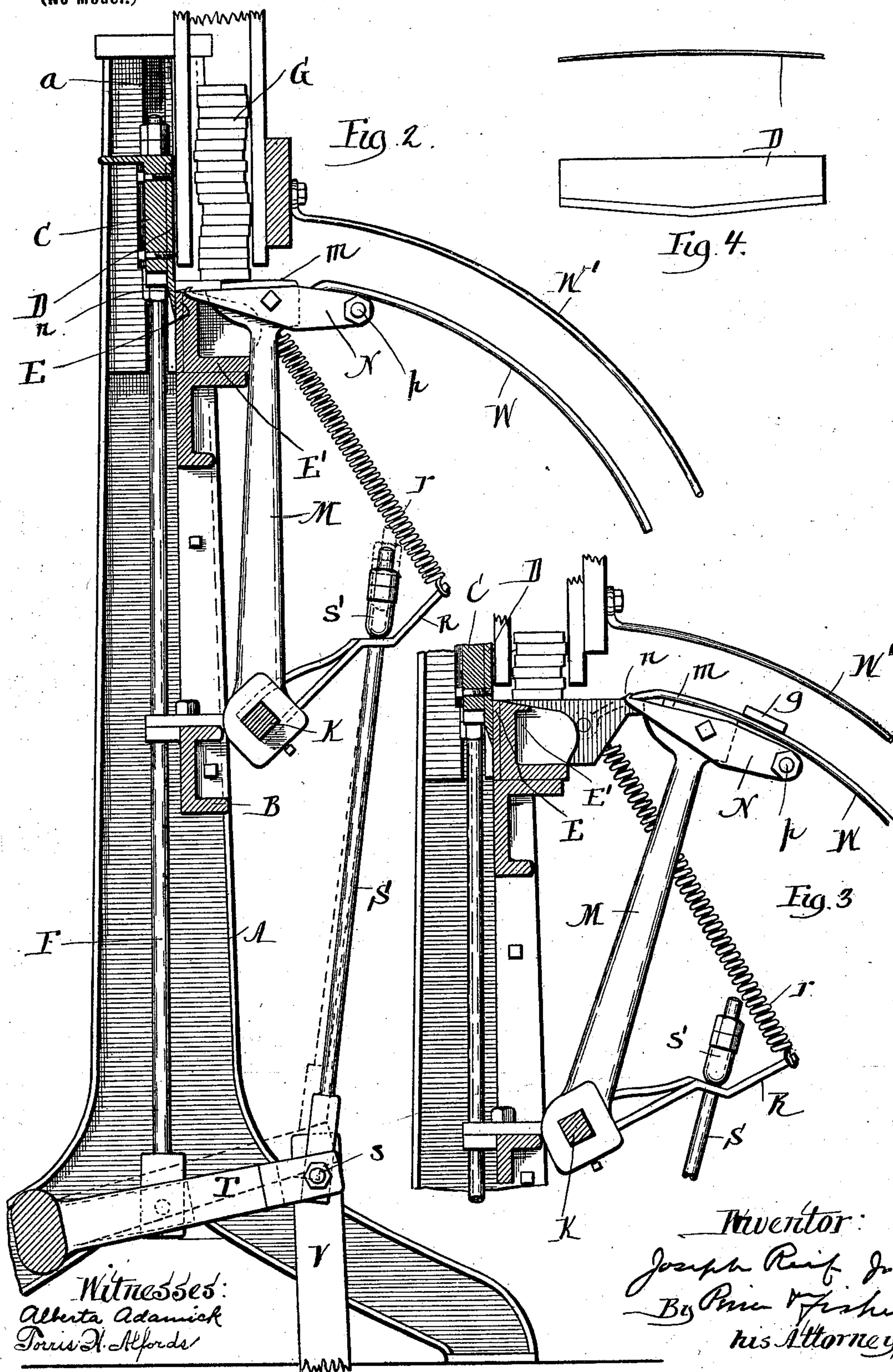
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(Application filed July 29, 1901.)

2 Sheets—Sheet 2.

(No Model.)



UNITED STATES PATENT OFFICE.

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MECHANISM FOR TRIMMING SLATS.

SPECIFICATION forming part of Letters Patent No. 698,139, dated April 22, 1902.

Application filed July 29, 1901. Serial No. 70,079. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH REIF, Jr., a citizen of the United States, and a resident of Hebron, in the county of Porter, State of Indiana, have invented certain new and useful Improvements in Mechanism for Trimming Slats, of which the following is a full, clear, and exact description.

This invention has for its object more particularly to provide an improved machine for trimming the edges of wooden slats, particularly such as are used in the manufacture of barrels; and the invention consists in the features of improvement hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a front view of the trimming-machine embodying my invention. Fig. 2 is a view in vertical cross-section, and Fig. 3 is a view in cross-section, of parts shown in Fig. 1, but in different relative position. Fig. 4 shows in detail the trimmer-knife.

In the accompanying drawings my invention is shown as embodied in a machine more particularly designed for beveling the end portions of slats such as are used in making wire-woven barrels or drums; but it will be understood that without departure from the invention it may be employed for trimming or beveling slats for other purposes.

The frame of the machine consists of the end bars A and A', that are connected in the usual manner by a cross-frame B. The end bars are formed with the usual guide-grooves a, in which reciprocates the cross-head C, that carries the movable trimmer-knife D. This knife D is adapted to slide in proximity to a support E, whereon the slat will rest while being trimmed. The cross-head C has a reciprocating movement imparted thereto by suitable rods F, that are connected by arms f to a rock-shaft F', journaled at the base of the machine in the usual manner. The machine thus far described is of familiar construction and will be readily understood by those acquainted with this class of devices.

Heretofore it has been customary to operate the rock-shaft F' by means of a treadle connected therewith, the operator placing the slat to be trimmed upon a support in line

with the straight edge or support E, with which the knife D coöperates. My present invention is designed to provide means whereby the slats may be automatically delivered to and discharged from the trimming-knife, so that the efficiency of the machine may be materially increased. Above a suitable support E', that is mounted adjacent the support or straight edge E, is erected a suitable rack for carrying the stack of slats G. As shown, the rack comprises side bars H, that are connected by cross-bars h at front and back, suitable guide-strips h' being preferably connected to the cross-bars, so as to hold the slats in position. Preferably, also, the end bars H of the rack will be furnished with inclined guide-bars h², so as to position the slats within the rack and insure their proper delivery to the trimming-knife. The guide-strips h' are extended downwardly to a point sufficiently close to the rest or support E' to insure that only one slat shall be delivered at a time to the trimming-knife, a space being left beneath the end of the guide-strips h' for the passage of the lowermost slat of the stack.

At the front of the frame B is journaled the rock-shaft K, carrying arms M, and the upper ends of these arms M are provided with shoulders or extensions forming pushers m, that are adapted to engage the front edge of the lowermost slat of the stack G and force the inner edge of said slat into the path of the trimming-knife D. Adjacent each of the pushers m and preferably connected to the arms M are the ejectors N, preferably formed of upturned or hooked ends n, adapted to pass beneath and engage the lowermost slat of the stack G and withdraw said slat from the machine after it has been trimmed. As shown, the ejectors N are connected together by a cross-rod p, that extends through their front ends. From the rock-shaft K extends an arm R, to which arm are connected the lower ends of springs r, the upper ends of these springs being fastened to a stationary part of the frame and preferably to the supports E'. The springs r tend to rock the shaft K, so as to force the ejector-hooks n beneath the stack of slats G. Through the arm R passes a pitman-rod S, that is connected at its lower end to a bolt s in the bifurcated end of an arm T,

extending forwardly from the rock-shaft F'. A second pitman-rod V also connects to the bolt s, and the lower end of this pitman-rod V will be connected to a suitable eccentric or crank. (Not shown.) The hole in the arm R, through which the pitman S passes, is somewhat larger than the diameter of the pitman-rod, so as to allow the head of the pitman-rod at certain times to pass to a distance above the arm R, as indicated by dotted lines in Fig. 2. The purpose of this arrangement is to allow the pushers m, after the lowermost slat of the stack has been delivered to the trimmer-knife D, to remain idle until the trimmer-knife has descended and trimmed the ends of the slat, after which the head s' of the pitman-rod S will contact with the arm R, thereby rocking it downward and causing the arms M to rock forward, and thus insure that the ejectors N shall discharge the slat that has been trimmed. As shown, rods W are attached to the front of the machine, (being preferably connected to a support E',) and extend slightly higher than the path of travel of the ejectors m, so that as a slat is withdrawn by the ejectors it will ride over the rods W, which will free it from engagement with the ejectors. Preferably, also, guide-rods W' extend forwardly from the machine to deflect the slats into a suitable receptacle.

By reference to Fig. 4 it will be seen that the knife D is forwardly curved and that its central portion extends downwardly considerably below its ends. When the knife D is raised, its low central portion rises only to about the top of the straight edge E, so that when the lowermost slat is fed inward it will contact with the central portion of the knife; but the ends of the slat (which only are to be trimmed) will extend beneath the forwardly-curved higher portions of the knife. Assuming the parts to be in the position shown in Fig. 3 of the drawings, then if the machine be started the pitman V and the rods S and F will be raised by a suitable cam or eccentric. (Not shown.) The rods F will lift the knife D until the center of this knife is in line with or slightly above the top of the straight edge E, so that the lowermost slat of the stack when fed in will be in the path of the end portions of the knife when it descends. As the pitman-rod S is raised, it permits the springs r to rock inward the arms M, and thereby cause the pushers m to engage the front edge of the lowermost slat and force it into the path of the knife. At the time the pitman-rod S completes its upward movement the head s' of this pitman-rod will be at a distance above the rock-arm R, through which it moves freely. The slat being now in position, the pitman-rod V is caused to descend and draws downward the knife D, causing it to trim the edges of the ends of the slat that has been forced into the path of the knife. The pressure of the knife-edge upon the slat thus being trimmed causes the hooks or teeth n of the ejectors N to be embedded in the

slat. As soon as the knife D has completed the trimming of the slat the head s' of the pitman-rod S will in its downward movement contact with the rock-arm R, thereby causing this rock-arm to move downwardly and force the arms M to rock forwardly, and thus cause the ejectors N to withdraw the slat that has been trimmed from beneath the pile of slats G and eject it forwardly, as shown in Fig. 3. In this way it will be seen that the slats are rapidly delivered to and discharged from the trimmer-knife D. An advantage in using one or more springs r for causing the pusher mechanism to advance the slats into the path of the trimmer-knife is that if for any reason a slat happens to be wider than the ordinary width the pusher will simply deliver the slat to proper position to be trimmed, the machine being equipped with the usual gage that varies the curvature of the knife, and thus regulates the amount to be trimmed from the edges of the slats. The feature of employing a loose or lost-motion connection, such as the pitman-rod S, sliding through the rock-arm R, is of advantage, inasmuch as it allows the ejector mechanism to remain at rest during the time that the slat is being trimmed.

It is manifest that the precise details of construction above set out may be varied within wide limits without departing from the spirit of the invention. So far as I am aware the invention presents the first instance of a slat-trimmer having combined therewith means for automatically delivering the slats laterally and discharging them from the cutter-knife.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a slat-trimming machine, the combination with the cutter-knife and with a support for the slats, of means for automatically delivering the slats in lateral direction into the path of the cutter-knife, and means for withdrawing the slats laterally from said knife.

2. In a slat-trimming machine, the combination with the cutter-knife and a support for the slats, of pusher mechanism adapted to engage the edges of the slats and force them into the path of the cutter-knife and ejector mechanism adapted to discharge the slats laterally from the machine.

3. In a slat-trimming machine, the combination with the cutter-knife and a support for the slats, of a rack arranged in front of the knife for supporting a stack of slats, an opening at the bottom of said rack to permit the lowermost slat to be moved laterally into the path of the cutter-knife, pusher mechanism for advancing the slats laterally into the path of the cutter-knife and ejector mechanism for discharging the slats from the machine.

4. In a slat-trimming machine, the combination with the cutter-knife and with a suit-

able support for the slats, of pusher mechanism for advancing the slats laterally into the path of the knife and ejector mechanism having points or hooks adapted to engage the bottoms of the slats and discharge them from the machine.

5 5. In a slat-trimming machine, the combination with the cutter-knife and with a suitable support for the slats, of pusher mechanism for advancing the slats laterally into the path of the knife, ejector mechanism for discharging the trimmed slats, and a spring for actuating the pusher mechanism in delivering the slats into the path of the knife.

15 6. In a slat-trimming machine, the combination with the cutter-knife and with a suitable support for the slats, of pusher mechanism for advancing the slats laterally into the path of the knife, a spring for moving said pusher mechanism to effect the delivery of the slats to the action of the knife, means for

actuating said knife, ejector mechanism for discharging the trimmed slats and a lost-motion connection for actuating said ejector mechanism.

25 7. In a slat-trimming machine, the combination with the cutter-knife and with a suitable support for the slats, of pushers for advancing the slats laterally into the path of the knife, rock-arms for actuating said pushers, ejectors connected with said pushers for discharging the trimmed slats, spring mechanism for moving said pushers to cause the delivery of the slats to the path of the cutter-knife and means for moving said pushers and ejectors in opposite direction in order to withdraw the slats.

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