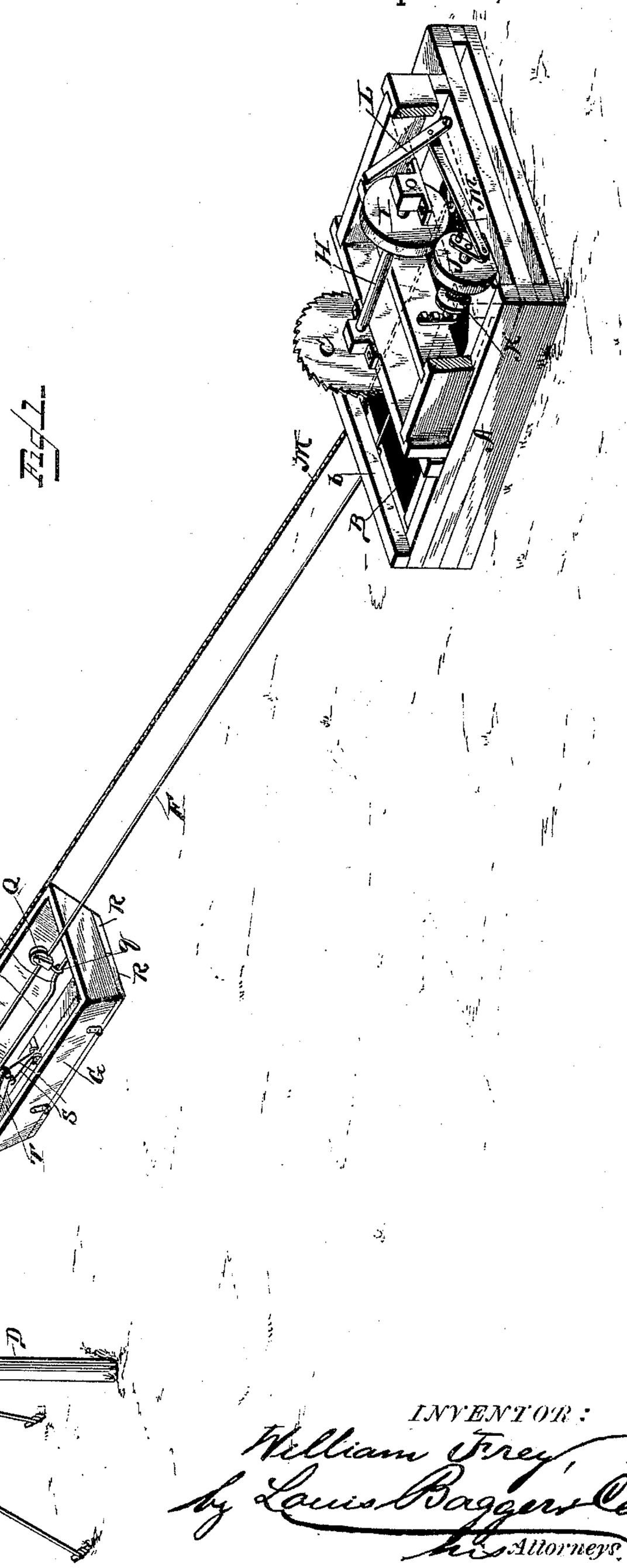
(No Model.) 2 Sheets—Sheet 1.

W. FREY.

SAWDUST ELEVATOR.

No. 411,332. Patented Sept. 17, 1889.



WITNESSES:
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INVENTOR:
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

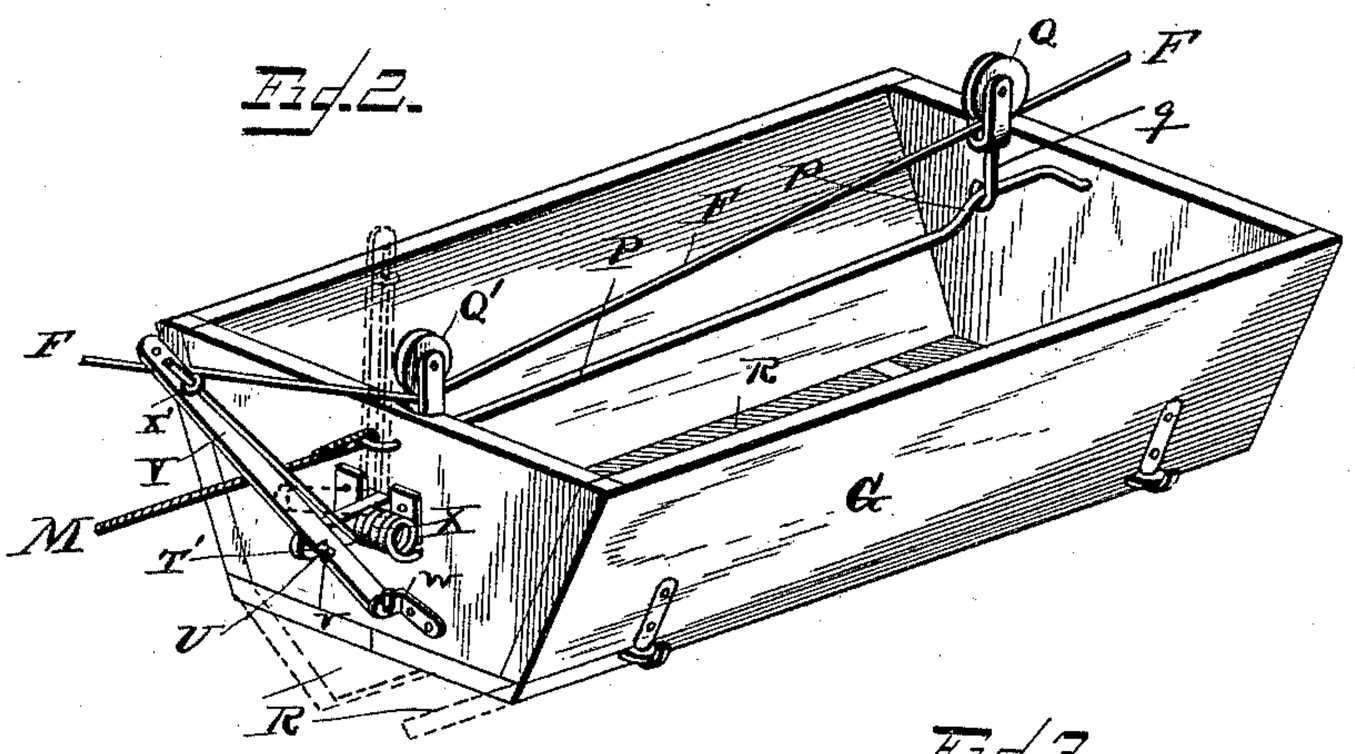


Fig. 3.

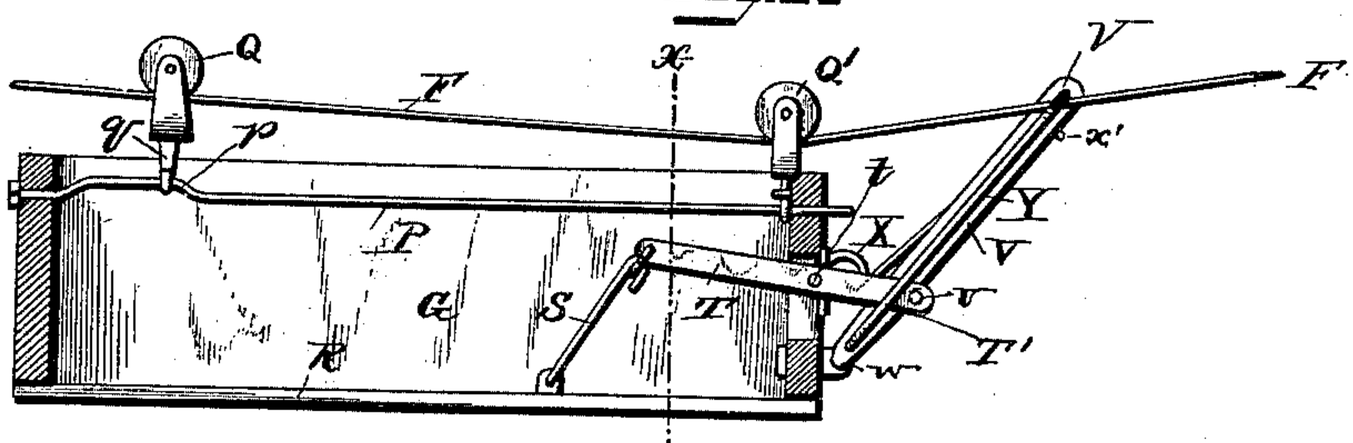


Fig. 4.

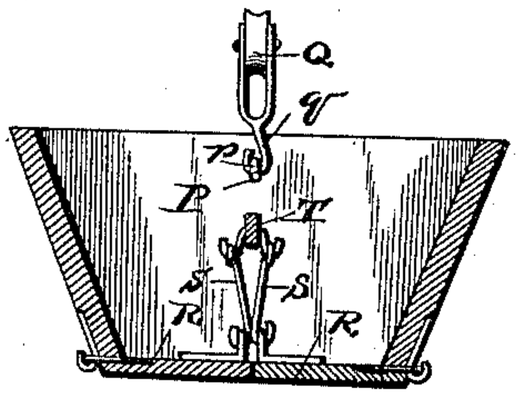


Fig. 5.

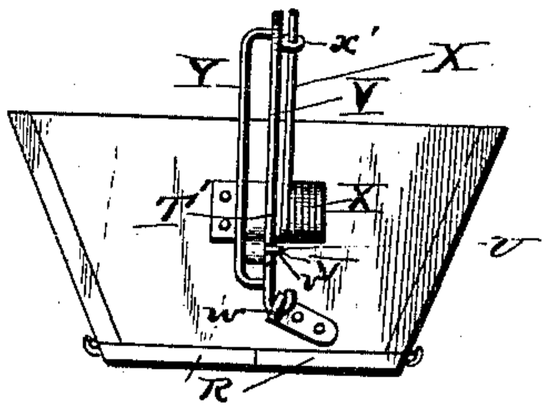
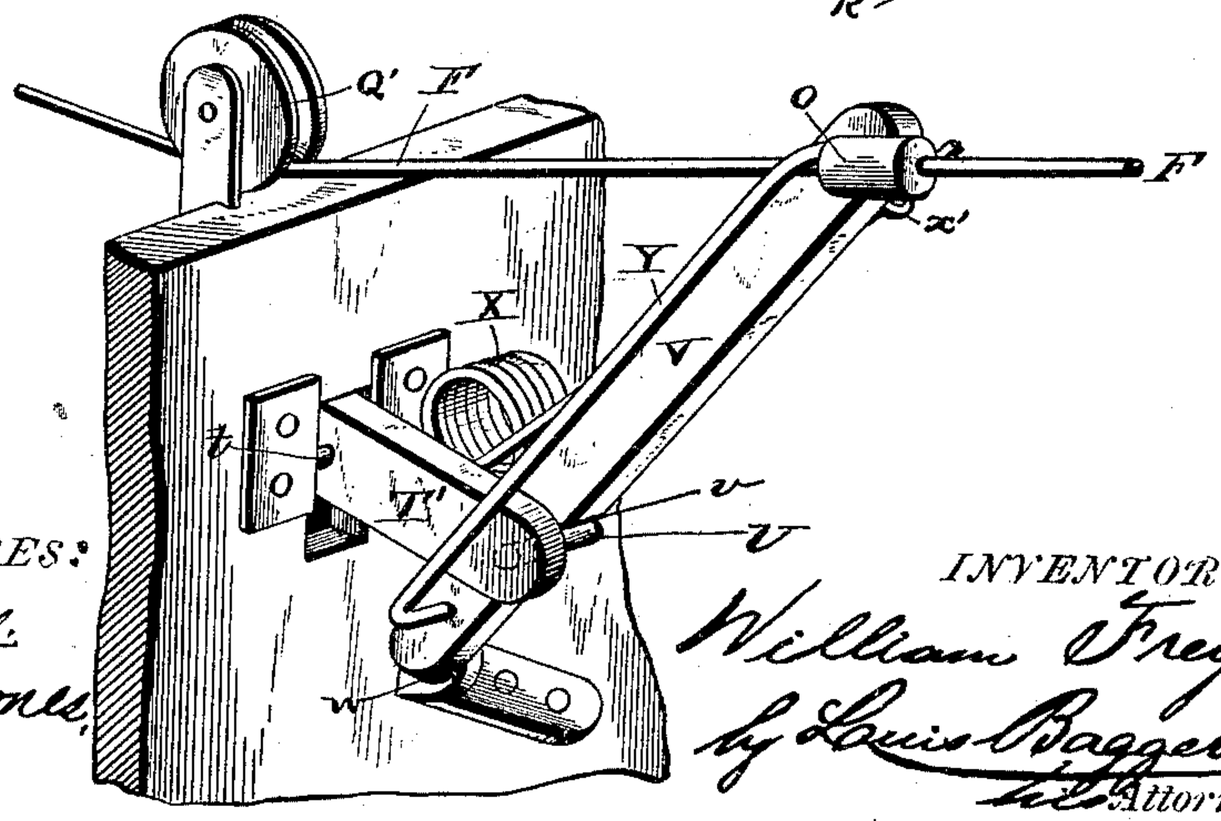


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM FREY, OF NEW CUMBERLAND, OHIO.

SAWDUST-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 411,332, dated September 17, 1889.

Application filed March 16, 1889. Serial No. 303,578. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FREY, a citizen of the United States, and a resident of New Cumberland, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Sawdust-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my device for elevating and dumping sawdust. Fig. 2 is a perspective view of the carriage, the dotted lines showing the same as it appears when opened for dumping or discharging its load. Fig. 3 is a longitudinal sectional view of the carriage. Fig. 4 is a transverse vertical section on line *x x* in Fig. 3. Fig. 5 is a front view of the carriage, and Fig. 6 is an enlarged detail view of the tripping mechanism for opening and automatically closing the bottom of the carriage.

Like letters of reference denote corresponding parts in all the figures.

This invention relates to devices for elevating and dumping sawdust, coal, or coal-screenings, slag, ashes, or other refuse, carrying the same from the point where it accumulates to some convenient point located at a suitable distance where it is to be dumped, and is particularly designed for use in connection with saw-mills, both portable and stationary, for the purpose of collecting the sawdust as it accumulates under the saws, and carrying it away.

To this end my invention consists in the construction and combination of parts of the improved collecting and dumping carriage, which will be hereinafter described, and its combination with the devices whereby the same is operated, substantially as hereinafter more fully set forth and claimed.

In the accompanying two sheets of drawings, the letter A designates a saw-mill of any approved construction, and B the pit in which the sawdust is received from the saw or gang of saws. (Shown at C.) At a suitable distance from the mill where it is desired to dump the sawdust a pole or other structure D of suitable height is erected and suitably braced by guy-ropes E. The top of this pole is connected to the mill by a wire track-rope F, upon which the dumping-carriage (shown at G) travels. The track-rope is so arranged that the carriage on reaching the terminus of the track at the mill will pass down into the pit underneath the saw in such a position that it will receive and collect the dust as it drops from the rapidly-revolving saws. The saw-arbor (shown at H) is provided with a friction-pulley I, adapted to engage another friction-pulley J, so arranged that by working a suitably-located lever in the well-understood way the two pulleys I and J may be brought into frictional contact with each other, while by letting go of this lever (shown at L) the two pulleys will become separated and pulley J will remain at rest. The shaft of the friction-pulley J is provided with a drum K, to which the hoisting-rope M is fastened, and around which it is coiled in such a manner that when the pulley revolves the rope will be wound up upon the drum. The other end of rope M passes over a block or sheave N, fastened to the upper end of the pole above the track-rope, and is then brought back and attached to the front end or headboard of the carriage. Thus it will be seen that when pulley J is revolved by operating the lever L, which throws it into frictional contact with the continuously-revolving pulley I, the carriage will be drawn out of the pit and up along the track-rope until it reaches and strikes a stop O, which is fastened (adjustably) upon the track-rope immediately above the point where it is desired to dump the contents of the carriage. The carriage is of such a size and shape that it will readily enter the pit beneath the saw, and is provided with a bar or rod P, one end of which is fastened in the front end near its top and the other in the rear end. The rear end of this bar is bent to form an offset *p*, forming a shoulder or abutment for the link *q* of the sheave Q. In the front end of the carriage is fastened the companion sheave Q′, both sheaves traveling upon the track-rope and holding the carriage suspended therefrom. The bottom of the carriage consists of two

doors or sections R R, which are hinged to the sides and opened by dropping downward. They are held in their closed position by means of two rods S S, (one for each section,) the upper ends of which are jointed to the inner end of a lever T, having its fulcrum at *t* in a slot in the front end or head-board of the carriage. The outwardly-projecting arm T′ of this lever has a laterally-projecting pin U, adapted to engage or interlock with a notch *v* in the trigger-arm V, which is pivoted at *w*, while its upper free end has a laterally-projecting eye *x*′, through which the free end of a spring X is inserted, the tension of said spring being to force the free end of the trigger-arm in an outward direction, so as to engage (by its notch *v*) the pin or lever T′ T. On the opposite side of arm V is a guide-rod or keeper Y, between which and arm V the projecting outer arm of lever T′ T is confined.

From the foregoing description, taken in connection with the drawings, the operation of this device will readily be understood. The carriage, standing in the pit B, receives the sawdust as it drops from the mill, and when full the operator, by moving lever L, causes the filled carriage to travel with its load up along the track-rope F. When the stop O is reached, the upper end of the trigger-arm V will strike this with sufficient force to overcome the tension of the retaining-spring X, thereby throwing the arm back and unlocking pin U from its notch *v*, which releases lever T′ T and permits the two bottom sections R R to swing open and dump the load. When the operator lets go of lever L, the carriage will descend the inclined plane formed by the track-rope by its own gravity, and the moment arm V is withdrawn from the stop O its spring X will again operate to interlock it with arm T′ T, thereby automatically closing the doors or bottom and putting the carriage in readiness to receive its next load. When the carriage, on its descent or return trip, reaches the pit, its sheave Q, when it strikes the front beam *b* of the table above the pit, will be shoved over the offset *p* on the suspending-bar P and pushed up along this bar, so as to be out of the way as the rear end of the carriage runs back into the dust-pit. When the carriage is again drawn out with its next load, the movable sheave Q will of itself resume its proper position at the rear end of bar P.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the carriage-body, longitudinal suspending-rod having an offset near its rear end, the fixed front sheave, and the movable rear sheave adapted to slide along the suspending-rod, substantially as and for the purpose set forth.

2. The combination of the carriage-body, the hinged bottom sections, the lever fulcrumed in the head-board, links or rods connecting said lever to the inner ends of the bottom sections, the trigger-arm adapted to interlock with the outer end of the lever, and a spring bearing against the free end of the trigger-arm with sufficient force to close the carriage-bottom automatically when pressure against the free end of the trigger-arm is relaxed, substantially as and for the purpose set forth.

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

WILLIAM FREY.

Witnesses:
ROBERT WILLIGMANN,
JOHN MOWLS.