No. 808,171. PATENTED DEC. 26, 1905.

G. SAMPSON.

HOUSE SHINGLING APPARATUS.

APPLICATION FILED MAY 27, 1905.

2 SHEETS—SHEET 1.

FIG. 1.

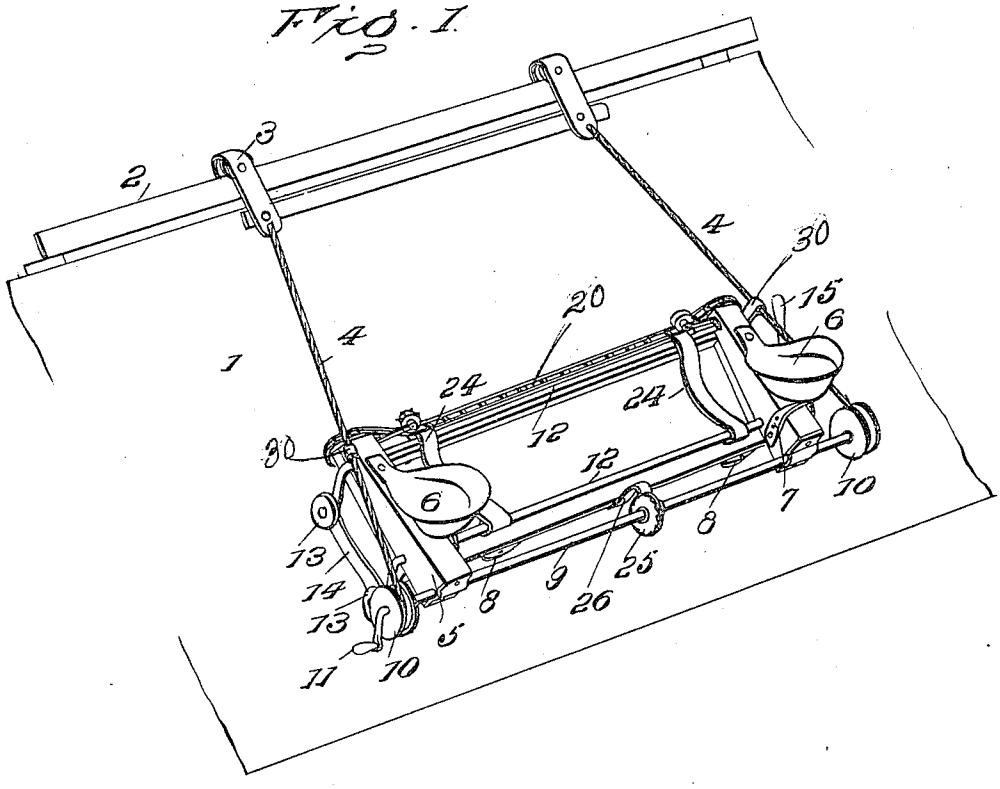
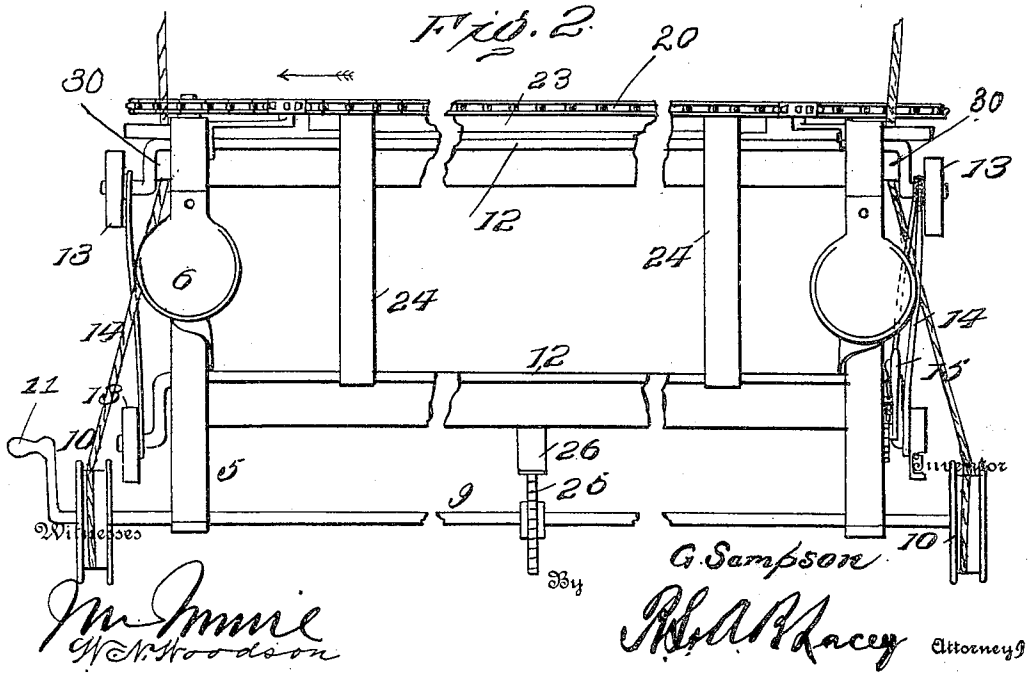


FIG. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

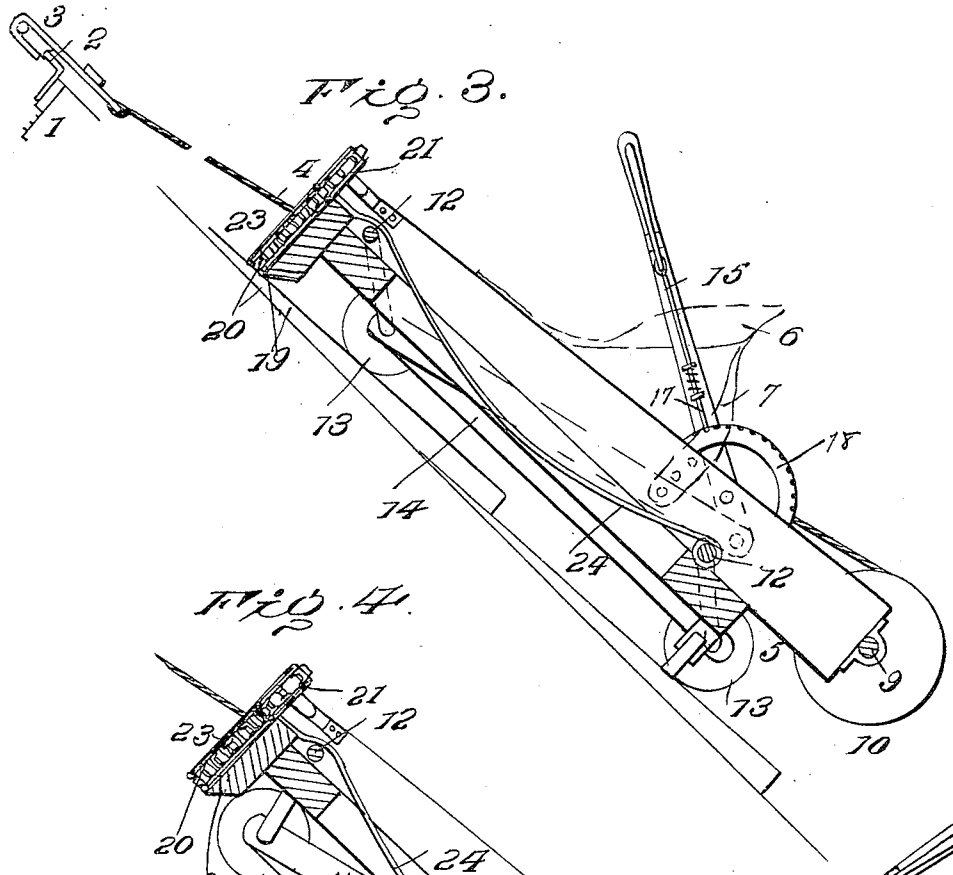


Fig. 4.

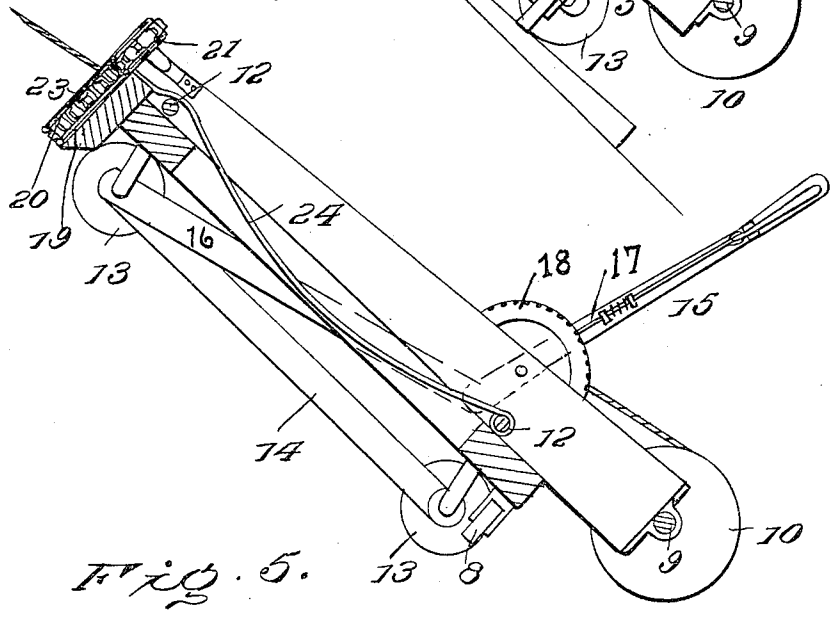
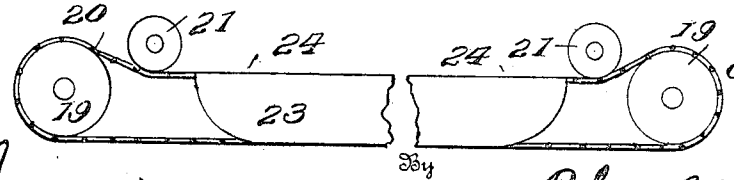


Fig. 5.



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GUSTAVE SAMPSON, OF BELVIEW, MINNESOTA.

HOUSE-SHINGLING APPARATUS.

No. 808,171. Specification of Letters Patent. Patented Dec. 26, 1905.

Application filed May 27, 1905. Serial No. 262,656.

To all whom it may concern:

Be it known that I, GUSTAVE SAMPSON, a citizen of the United States, residing at Belview, in the county of Redwood and State of Minnesota, have invented certain new and useful Improvements in House-Shingling Apparatus, of which the following is a specification.

This invention embodies a novel apparatus designed particularly for use in the construction of buildings, such as dwelling-houses, in the operation of shingling the roof of the building.

The invention includes in its preferred construction a suitable supporting frame or body adapted to support the operators engaged in laying and in nailing the shingles to the roof, means, including a trolley, for supporting the supporting frame or body aforesaid, so that the latter may travel the length of the roof as the shingles are being laid, means for adjusting the position of the supporting-frame for the operators, so that the same may be readily raised and lowered, and special shingle-supporting mechanism, constituting an important feature of the invention.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description, and accompanying drawings, in which—

Figure 1 is a perspective view of an apparatus embodying the invention in position upon the roof of a dwelling-house. Fig. 2 is a top plan view partially broken away. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a view similar to Fig. 3, showing the frame supported by the auxiliary supporting-wheels. Fig. 5 is a front elevation of the gage-belt and adjacent parts.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the detail construction of the apparatus comprising the invention, the numeral 1 in the drawings indicates the roof of an ordinary dwelling-house, the invention being shown in operative position thereon. Adjacent the point of the roof in the construction of the same shown in the drawings and substantially secured thereto in any suitable way is a rail 2, which constitutes a longitudinal track or way upon which is adapted to operate or travel a trolley 3. The trolley 3 is connected, by means of cables 4, with a main supporting-frame 5, upon which are carried seats 6, so that the operators who are engaged in laying and nailing the shingles to the roof may be seated upon the frame 5 in this operation, said seats 6 being supported by adjustable standards 7 so that they may be raised and lowered to vary the elevation thereof, according to the inclination of the roof upon which the apparatus is being used. The supporting-frame 5 may be contructed in various ways, but is preferably composed of longitudinal bars and transverse end bars secured together by suitable fastening means. Beneath one of the longitudinal bars of the frame 5 are arranged main supporting-wheels 8, disposed longitudinally of the frame 5 and adapted to normally support the said frame as the latter moves lengthwise of the roof in laying the shingles. The wheels 8 are mounted in suitable brackets attached to the under side of the longitudinal bar of the frame 5, which carries said wheels.

A windlass-shaft 9 is journaled upon the frame 5, being also arranged longitudinally thereof, and this windlass-shaft is provided preferably at its ends with drums 10, upon which the cables 4 are adapted to wind. A crank-handle 11 at one end of the shaft 9 admits of operation of this shaft. Supporting-axles 12 are also mounted in the frame 5, one in advance of the other and lengthwise thereof, and these axles are of arched formation, having the end portions thereof extended downwardly to receive the auxiliary supporting-wheels 13. The ends of the axles 12 are connected by link-bars 14, so that said axles may be simultaneously operated, and a lever 15, pivoted to the frame 5 at one end, is connected by a rod 16 with an end of one of the axles 12. The lever 15 is provided with a suitable latch 17 to engage a toothed segment 18 of ordinary form to position the lever, and by moving this lever rearwardly the ends of the axles 12, carrying the wheels 13, will be forced downwardly below the wheels 8, so that the frame 5 may be supported on the wheels 13 instead of the wheels 8. The wheels 13 are mounted transversely of the frame 5 or at about a right angle to the wheels 8, and when the frame 5 is supported by the wheels 13 the operator, who is seated adjacent the crank-handle 11, may turn this crank-handle and wind or unwind the cables

4 to pull the frame 5 upwardly or lower said frame on the roof.

Mounted at the front or upper portion of the frame 5 are sprocket-wheels 19, one of which is located adjacent each end of the frame, and these sprocket-wheels 19 have an endless chain belt 20 passing thereabout, as shown most clearly in the drawings. The chain belt 20 is adapted to rest directly in contact with the roof, and to a certain extent the sprocket-wheels 19 and this belt support the upper portion of the frame 5 as the latter is moving longitudinally of the roof in laying the shingles. Idlers 21 bear against the upper portion of the chain belt 20, and these idlers may be carried by the frame 5 and journaled thereto in any suitable way. The chain belt 20 is utilized primarily as a shingle-gage, said belt being adapted to support the shingles 22 as the latter are laid in position upon the roof preparatory to being nailed thereto. The length of the frame 5 will be sufficient so that when said frame is stationary the chain belt 20 will support quite a number of the shingles, and it is contemplated that one of the operators seated upon the frame 5 shall lay the shingles as the other operator nails them in place.

Describing the operation of the machine, two operators will be seated upon the frame 5, preferably as the shingles are being laid, and when said frame is traveling or being moved lengthwise of the roof in the direction of the arrow the operator at the left may lay a shingle, with the lower end resting against the lower portion of the gage 20, whereas the operator at the right may nail the shingles to the roof. As the shingles are laid the frame 5 is gradually pushed to the left, and it will be noted that the lower portion of the chain belt 20, being in contact with the roof, will cause said chain belt to travel about the sprocket-wheels as the frame 5 is advanced, and one straight reach of the belt 20 will always remain in the same relation to the roof, supporting the shingles laid thereagainst until they have been nailed in position, after which such portion of the belt begins to travel up over the sprocket-wheels. Thus for all purposes of the invention a certain portion of the belt 20 is practically immovable as the shingles rest thereagainst, this being very important within the contemplation of the invention.

In order that the belt 20 may not sag at the middle, it is designed to use a longitudinal supporting-bar 23, carried by the outer or upper ends of springs 24, the latter being secured to the frame 5, so as to normally hold the bar 23 upon the shingles of the roof just below and in contact with the lower side of the chain belt 20. The shaft 9 is provided with a ratchet-wheel 25, with which a pawl 26, carried by the frame 5, is adapted to engage. The pawl 26 when in engagement with the ratchet-wheel 25 prevents rotation of the shaft 9, which winds the cables 4 upon the drums 10.

It will be understood that after a longitudinal row of shingles has been laid the operator turns the handle 11 and raises the frame 5, but previous to doing so the lever 15 is grasped and pulled rearwardly, so that the frame 5 is supported by the wheels 13 instead of the wheels 8. Thus when the operator turns the shaft 9 to wind the cables 4 and raise the frame 5 preparatory to laying the next upper row of shingles said frame 5, being supported by the wheels 13, will move freely and easily as it is raised in the above manner. Guide or loop members 30 are carried at the front end portions of the frame 5, and the connections 4 pass therethrough.

Having thus described the invention, what is claimed as new is—

1. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, sets of wheels for said supporting-frame arranged at angles to each other, and means admitting of supporting said frame upon either set of wheels.

2. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, sets of wheels for said supporting-frame arranged at angles to each other, and means for actuating one set of wheels so that the frame is supported thereon independently of the other set.

3. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, a set of main wheels supporting said frame, a second set of wheels arranged at an angle to the first set of wheels and adapted to support said frame, axles for the last-mentioned set of wheels, and means for actuating the axles aforementioned to throw the wheels carried thereby into a position supporting the frame.

4. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, a set of main wheels supporting said frame, a set of auxiliary wheels arranged at an angle to the main wheels and adapted to support said frame, axles for the main wheels, connections between the axles, and operating means on the frame for actuating the axles to admit of supporting the frame upon either the main wheels or the auxiliary wheels aforesaid.

5. In a shingling apparatus, the combination of a supporting-frame movable along the roof, a shingle-gage carried by said frame and comprising a longitudinal supporting-belt adapted to run freely in contact with the roof as the frame moves thereon, whereby a straight reach of the belt maintains the same

relation to the roof while the frame is moving, and a longitudinal spring-supported bar carried by the frame and coacting with the belt to prevent sagging thereof.

6. In a shingling apparatus, the combination of a supporting-frame adapted to travel over the roof, means for supporting the frame upon a building, an adjustable connection between the frame and the supporting means therefor, and a shingling-gage embodying an endless belt carried by the supporting-frame and adapted to run freely in contact with the roof as the frame moves, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

7. In a shingling apparatus, the combination of a movable supporting-frame, and a shingle-gage carried thereby and embodying an endless belt device adapted to run freely as the frame moves, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

8. In a shingling apparatus, the combination of a movable supporting-frame, wheels supporting the frame, and an endless belt connecting said wheels and forming a shingle-gage, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

9. In a shingling apparatus, the combination of a track, a trolley thereon, a supporting-frame, wheels coöperating to support said frame, an endless belt connecting said wheels and constituting a shingle-gage, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving, and means for adjusting the position of the frame.

10. In a shingling apparatus, the combination of a supporting-frame for an operator, means for supporting the frame upon a building, an adjustable connection between the frame and the supporting means therefor, and a shingle-gage embodying an endless belt carried by the supporting-frame and means to prevent sagging of the belt, the gage-belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

11. In a shingling apparatus, the combination of a track, a trolley mounted thereon, a supporting-frame, a windlass-shaft upon the frame, cables connecting the trolley with the windlass-shaft to be wound upon the latter, sets of supporting-wheels upon the supporting-frame arranged at angles to each other, means for supporting the supporting-frame upon either set of wheels independently of the other, and a shingle-gage for the supporting-frame comprising an endless belt, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVE SAMPSON. [L. S.]

Witnesses:
J. S. GUNELSON,
A. W. LYSTO.