No. 835,590. PATENTED NOV. 13, 1906.

J. WHITEFORD.

TRANSPORTING SYSTEM.

APPLICATION FILED JULY 2, 1906.

2 SHEETS—SHEET 1.

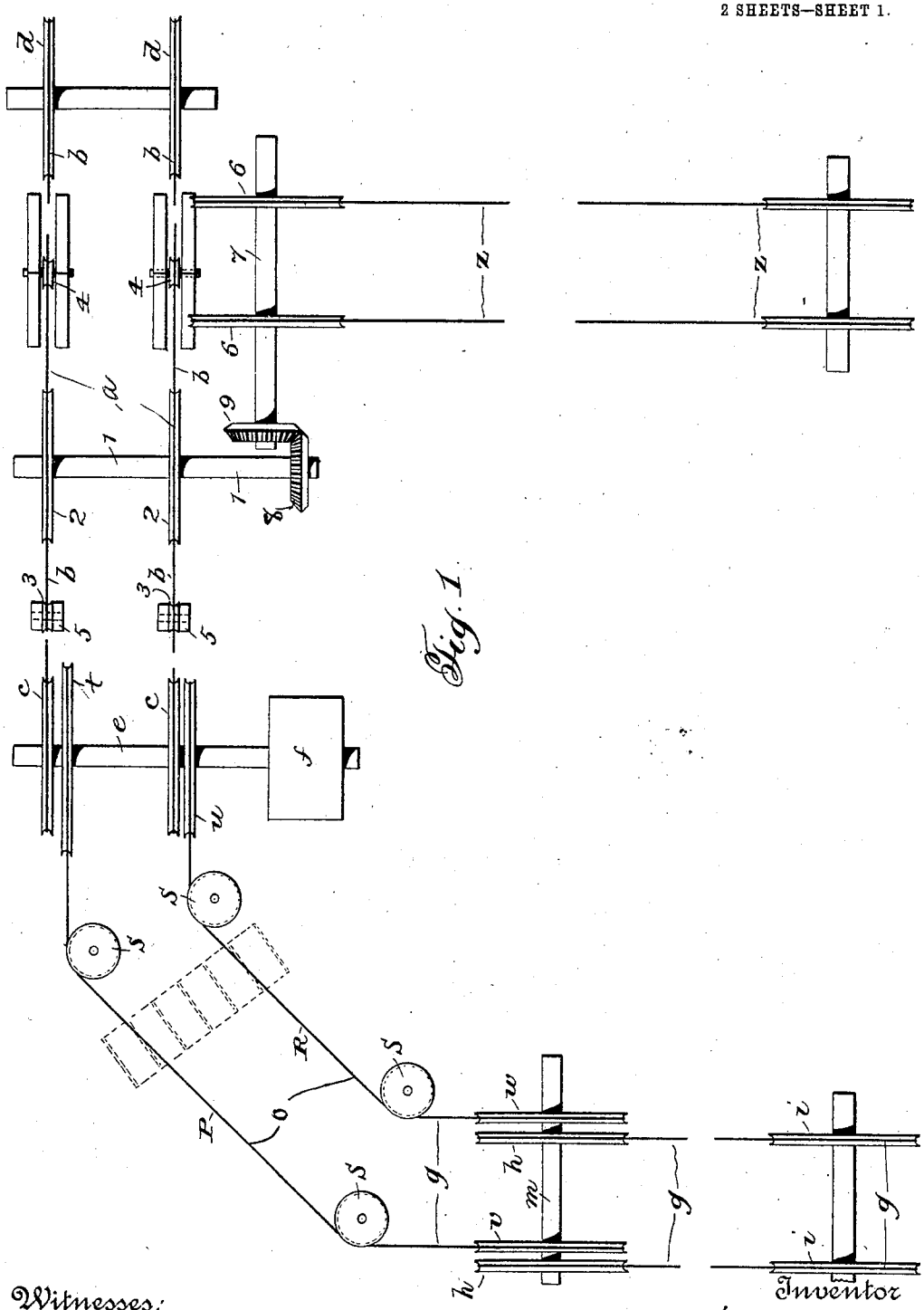

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

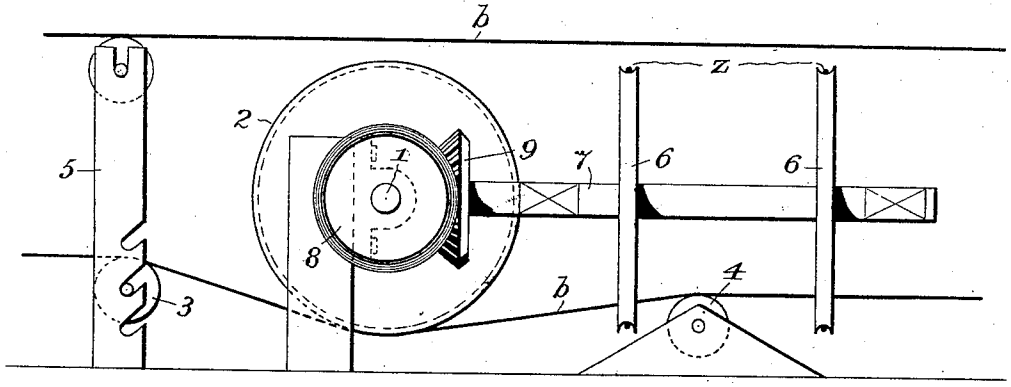
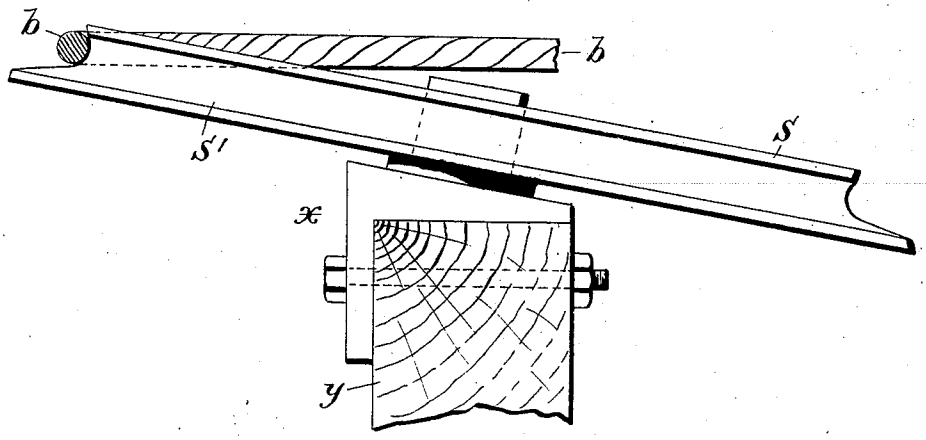


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN WHITEFORD, OF MENOMONIE, WISCONSIN, ASSIGNOR OF ONE-THIRD TO FRANK J. McLEAN AND ONE-THIRD TO FRANCIS J. McLEAN, OF MENOMONIE, WISCONSIN.

TRANSPORTING SYSTEM.

No. 835,590. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed July 2, 1906. Serial No. 324,369.

To all whom it may concern:

Be it known that I, JOHN WHITEFORD, a citizen of the United States, residing at Menomonie, State of Wisconsin, have invented certain new and useful Improvements in Transporting Systems, of which the following is a specification.

My invention relates to a transporting system, and more particularly to a system of endless movable cable conveyers upon which articles to be moved are freely supported during transportation, said conveyers having portions arranged at angles to one another forming part of a continuous line of transportation and said system further including one or more spur-lines disposed at an angle to the main line and driven therefrom.

The object of the invention is to provide a system of the character specified which is particularly simple in construction and highly efficient in operation.

To this end the invention includes the combination and arrangement of component parts, to be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate one exemplification of my invention, Figure 1 is a plan view of the system; Fig. 2, a side elevation of the system, showing the mechanism for driving the spur-conveyer from the main conveyer; and Fig. 3 is a detail view of one of the guide-pulleys.

The invention includes generally a pair of main carrying-cables movable in a rectilinear line for moving an article freely supported thereupon, a second pair of cables disposed at an angle to the first for conveying the article in a rectilinear line, a pair of transfer-cables for transferring the article received from the first conveyer to the second conveyer, said transfer-cables having associated therewith guide-pulleys of novel construction, and a spur-conveyer comprising a pair of cables moving in synchronism with the main cables and running at right angles to one pair thereof.

The embodiment of the invention disclosed herein is particularly adapted for conveying green brick from the molding-station to the drying-yard of a brick plant.

One branch of the main conveyer is designated *a* in the accompanying drawings and consists of a pair of endless cables *b*, arranged side by side a suitable distance apart and guided over sheaves *c d*, supported in any suitable way. The sheaves *c* are fixed to a shaft *e*, which is extended to receive a drive-pulley *f* and which acts as a main drive-shaft of the entire system.

A second branch of the main conveyer (designated *g*) is disposed at right angles to the branch *a* and comprises like endless conveyers guided over sheaves *h i*, which are supported in any suitable way. The sheaves *h* are fixed to a shaft *m*, which is driven from the shaft *e* in a manner to be hereinafter described.

For making the right-angular turn in the illustrated exemplification of my invention or for making a turn of greater or less angle, as the case may be, a transfer-conveyer *o* is employed, which comprises two endless cables P R, arranged side by side and guided around sheaves *t u v w*, mounted on the shafts *e m*, respectively, and around intermediate guide-pulleys S. The sheave *t* is fixed to the shaft *e* and drives the outer cable P, and the sheave *v* rotates independently of the shaft *m*. The sheaves *u w* are fixed to the shafts *e m*, respectively, so that the sheave *u* drives the inner strand R of the conveyer *o* and therethrough the shaft *m*, which in turn imparts movement to the second branch *g* of the main conveyer. The pulley *t* is of larger diameter than the sheave *u*, the relative size of the two being such that the outer portion of an article supported on said cables will move about the axis of the outer pulleys S at substantially the same time the inner portion of the article is moving about the axis of the inner pulleys S.

The guide-sheaves S are of novel construction and are mounted in a novel manner. As shown, each sheave or pulley S is disposed at an angle to the horizontal, the outer part of the pulley being in a higher plane than the inner portion thereof, and the lower guide-flange S′ of each pulley is relatively of much greater depth or width than the upper guide-flange to provide a more extended seat or rest for the cable. Each pulley S is preferably journaled in a bracket secured to a post *y*. Each bracket has its upper face disposed at an angle to the horizontal.

In conveying bricks the latter are placed side by side on a pallet, and the pallet is

placed upon the pair of cables extending transversely of the latter. By means of the main conveyers *a g* and the transfer-conveyer *o* a return system may be built running through any desired field or area.

To distribute the articles carried by the main conveyer in areas to one side of the same and a distance therefrom, one or more spur-conveyers are employed. The spur-conveyer *z* illustrated herein extends at right angles to the main conveyer *a* and is driven therefrom. To effect this action, a power-transmitting shaft 1 is employed, to which sheaves 2 are fixed, driven from the lower strand of the cables *b* by frictional contact therewith. To hold the lower strands *b* into frictional contact with the sheaves 2, a pair of idlers 3 4 are employed, either one, or both, of which may be adjustably mounted. As illustrated, the idler 3 is adjustably mounted in the support 5, the latter being provided with a series of slots providing journal-bearings. The driving-sheaves 6 for the spur-conveyer are fixed to shaft 7, mounted in any suitable manner adjacent the shaft 1, and suitable transmitting mechanism is interposed between the ends of said shafts. This mechanism is here illustrated as beveled gears 8 9, intermeshing with each other and carried by said shafts 1–7, respectively.

The construction and operation of my system will be understood from the foregoing description, taken in connection with the accompanying drawings, and it will be appreciated that certain changes may be made without departing from the spirit and scope of the invention.

I claim—

1. In a conveyer system, two main conveyers comprising pairs of endless cables arranged at an angle to each other, a transfer-conveyer interposed between the ends of said main conveyers and comprising a pair of endless cables, end guiding-sheaves for the latter and intermediate guiding-pulleys therefor disposed at an angle to the horizontal and provided with lower flanges of greater circumference than the upper flanges thereof, substantially as described.

2. In a conveyer system, two main conveyers comprising pairs of endless cables, said conveyers being arranged at an angle to each other, a transfer-conveyer interposed between the ends of said main conveyers and comprising a pair of endless cables, a spur-conveyer extending at an angle to one of the main conveyers, said spur-conveyer comprising a pair of endless cables, and drive mechanism interposed between said main and spur conveyers comprising sheaves driven from the cables of the main conveyer, a shaft to which the sheaves are fixed, a second shaft disposed at an angle thereto, drive-sheaves for the spur-conveyer fixed to the second shaft and beveled gears interposed between the ends of said shafts, substantially as described.

3. In a conveyer system, two main conveyers comprising pairs of endless cables, said conveyers being arranged at an angle to each other, a transfer-conveyer interposed between the ends of said main conveyers and comprising a pair of endless cables, a spur-conveyer extending at an angle to one of the main conveyers, said spur-conveyer comprising a pair of endless cables, and drive mechanisms interposed between the main and spur conveyers comprising sheaves coacting with the lower strands of the main conveyer; idlers holding the said lower strands in frictional contact with the sheaves, a shaft to which the sheaves are fixed, a second shaft disposed at an angle thereto, drive-sheaves for the spur-conveyer fixed to the second shaft and transmitting mechanism interposed between the first and second shafts, substantially as described.

4. In a conveyer system, two main conveyers disposed at angles to each other, an interposed transfer-conveyer, a main drive-shaft, a pair of sheaves fixed thereto driving the cable of one of said main conveyers, a pair of sheaves fixed to said shaft driving the cable of the transfer-conveyer, a driven shaft, a pair of sheaves fixed thereto driving the cables of the second main conveyer, a third sheave fixed to said driven shaft driven by one of the cables of the transfer-conveyer and providing a guide therefor and a fourth sheave mounted on said driven shaft and movable independently thereof, the latter sheave forming a support for the second cable of the transfer-conveyer, substantially as described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Menomonie, Wisconsin, this 21st day of June, 1906.

JOHN WHITEFORD.

Witnesses:

D. H. DECKER,

E. H. GRANNIS.