

(No Model.)

F. W. WEEKS.
TRAIN ORDER BLANK PAD.

No. 574,349.

Patented Dec. 29, 1896.

FIG. 1

5

UNION PACIFIC SYSTEM

Telegraphic Train Order No. 20

Superintendents Office. Dec. 1896

FORM 31 For: Denver To C. & E. Of No 10 No 20.

No 10. Condr. Jones will meet No 9. Condr. Johnson at Kansas City. No 20 Condr. Smith will meet No 19.

FIG. 2.

Condr. Jacobs, at Chicago

Conductor and Engineman must each have a Copy of this Order.

TIME RECEIVED 4:20 P. M. GIVEN AT 4:21 A. M.

Conductor & Engineer	Train	Made at	Received by
Jones	10	Complete 9:30 a	W.F.W.
Smith	20	Complete 9:40 a	W.F.W.

FIG. 3

Witnesses
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UNITED STATES PATENT OFFICE.

FRANK W. WEEKS, OF DENVER, COLORADO.

TRAIN-ORDER-BLANK PAD.

SPECIFICATION forming part of Letters Patent No. 574,349, dated December 29, 1896.

Application filed April 6, 1896. Serial No. 586,472. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. WEEKS, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Train-Order-Blank Pads; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in train-order-blank pads, and my object is to greatly facilitate the work of writing and copying train-orders, and also to make the said copies durable and easily handled when made.

Under the old system tissue-paper forms are used with carbon manifolding-sheets, the whole being placed on a tin bed-plate, the writing being done with a stylus. These tissue-paper blanks are easily torn, defaced, or destroyed by handling and by coming in contact with water, snow, or moisture of any kind. Hence these tissue sheets are very inconvenient for trainmen to handle. The record is often faint and illegible by use of bad carbon-sheets or misplacement of same. The office copy, which is also on tissue-paper, is difficult to file safely by reason of the delicate nature of the paper, and is often lost for this reason. Besides the carbon-sheets are dirty to handle, and the results are irregular by reason of the promiscuous use of sheets that are new, half-worn, and badly worn. They are difficult to keep in place between the tissue forms, and a slight variation in their position results in the omission of a letter or figure, which error invalidates and renders useless the entire record. The corner of one of these sheets is often accidentally turned up, with the same result.

The tissue and carbon sheets make a thick, spongy mass upon which to write, often resulting in torn copies. The tin writing-bed renders the pad of blanks heavy and cumbersome to handle. Moreover, it slips easily out of place and often tears the tissue blanks. This difficulty requires extreme care in mov-

ing them about, resulting in the loss of valuable time.

The stylus is often lost or mislaid, and it is very liable to get out of repair by accidental dropping on the floor or other hard substance. This dropping roughens the point and renders the instrument useless until reground, which can only be done by sending it to headquarters. This causes great annoyance and cripples the service to a corresponding extent. Hence under the old system four articles are necessary, namely, the tissue sheets, the carbon-sheets, the tin bed-plate, and the stylus.

Under my improved system the blanks are made of opaque paper-stock heavy enough to give stability to the form, rendering the copies easy to handle and read and not so liable to be defaced or destroyed by handling or by ordinary exposure during use to moisture in the form of rain or snow. These opaque-paper blanks are each carboned or otherwise suitably prepared on the nether side of the blank sheet itself, whereby they are rendered capable of transferring a record to the sheet below.

Instead of the tin writing-bed a piece of cardboard is used, which is of less weight and also performs the additional function of taking and retaining a copy of the written matter and serving as an office or reference copy, which is easily filed and conveniently handled, and from its form, material, and weight not liable to loss or damage. The stylus is discarded, perfect results being obtained by the use of an ordinary lead-pencil, either indelible or not, an article always at hand and readily and quickly repointed or replaced if broken or lost.

Under the old system the materials are supplied separately to the operator or user, who must combine them for use at the time of using. This necessitates such supplies being kept on hand in large quantities to avoid the possibility of one kind becoming exhausted, as this result would render the others useless until another supply of the exhausted kind was received. These blanks are rarely used except for an order transmitted by wire, and the copies must be prepared quickly to avoid delaying trains and accurately to avoid wrecks and the consequent destruction of both life and property. It cannot be known by the

operator until the instant of transmissal whether he will require three, five, or seven copies of the order, and unless very expert he cannot arrange his blanks without causing
 5 delay, and in the effort to avoid delay he is tempted to slight his work and thus take the chance of an accident, as those in charge of the train can have no knowledge of what they should do except through the medium of the
 10 record provided by the operator. Often from ten to fifteen of these orders are on hand in one office at the same time, in various stages of completion, awaiting delivery. Under the old system they occupy a great deal of room
 15 and are difficult to handle and take proper care of, since these blanks are put up in pads of one hundred forms each, and it is necessary to have a separate pad lying about for each order in the office, while only a few forms
 20 of each pad are in actual use. These tissue-paper pads cannot be used near an open window, as a slight breeze will disarrange the tissue and the intermediate carbon-sheets, and they cannot be used out of doors at wrecks
 25 and other temporary offices, except with great difficulty.

My improved pad overcomes all these difficulties. It is put into exact and compact shape at the factory, with the cardboard writing-bed in place, the blank forms being attached to it by suitable means, the number
 30 (three, five, seven, or more) of copies each pad will make being printed in a prominent place thereon, so that it may be taken up and used at a moment's notice. The desired
 35 copies are accurately made without chance of failure or loss of any portion of the record, thus preventing any delay as well as possibility of error.

40 Each pad in use contains only the exact number of blanks required to copy a single order. No special preparation is required on the part of the operator. Each recording or carbon surface is used for one occasion only.
 45 Hence there can be no failure as a result of old, worn, or defective sheets. The record when made is durable and indelible, and the forms can be separated when ready for delivery by the point of the pencil. By folding
 50 the forms over the writing-bed the size of the pad is reduced one-half. This feature facilitates handling and gives a durable office copy of exactly half the size of the other copies, since the cardboard piece or writing-bed is
 55 written on both sides, half the order appearing on each side thereof. This is a great advantage in an office copy, since the size is such that it may be conveniently filed in a pigeon-hole of ordinary size or other suitable receptacle.
 60

From the foregoing it will be understood that my improved pads can be used under many circumstances where it is impracticable to use the tissue pads, for instance, in windy
 65 places, out of doors, &c., since my pads can be held in the hands while writing, and the sheets cannot become disarranged or mis-

placed until the record is complete and the operator breaks the fastening-seal preparatory to delivering the copies. 70

While awaiting delivery, all those for any named train can be conveniently kept together in a small space and separate from those for another train, thus insuring greater certainty of delivery and less liability that
 75 one may be overlooked than when all on hand are spread over a table, as under the old system, which requires great care in separating lest they become disarranged.

My improved pads can be handed to train- 80 men at the counter or window for signature as easily as a card of the same size, thus avoiding the necessity of the conductor's coming to the operator's table, which is often necessary under the old system, since it is so
 85 difficult to move the tissue and carbon pads without disarranging the sheets.

In the use of my pad no time is lost in the receiving of orders by wire, as the forms are always ready and require no preparation. 90 Ten or fifteen consecutive orders can be received under my system without any special preparation, no time being consumed beyond what is necessary to lay one pad aside and pick up another. 95

In short, the substitution of my improved train-order-blank pad for that heretofore in use changes a complicated, inconvenient, and time-consuming operation giving undesirable results to a quick, easy, and simple operation 100 giving uniform, accurate, and desirable results. Under my system a train-order can be handled by any one as easily and quickly as an ordinary telegram. In drawing a comparison between the two systems it should be
 105 remembered that the making of a train-order is rarely a continuous operation and requires the coöperation of from two to six or more persons. It may be received at 10 a. m., made "O. K." at 10.20 a. m., and be made com- 110 plete at 10.40 a. m., receiving during that time the personal signatures of the operator and from one to six or more conductors and engineers. The office copy shows a complete record of the whole proceedings and the mo- 115 ment each stage was done. For instance, where seven copies are made the first one or first pair will show the record up to and including the signature of the first person receiving it. The next will show the same with 120 the addition of the signature, time, &c., of the second person receiving it, and so on until all are delivered, the office record showing all these steps and all this matter in detail.

It will be readily understood that in such 125 an operation convenience, quickness, and accuracy are a desideratum, which is attained in the highest degree by the use of my improved pad, which is not only applicable to railway service, but to all similar work. 130

The invention will be better understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a perspective

view illustrating one side of the pad. Fig. 2 is a similar view showing the opposite side of the same. Fig. 3 is an end view showing the blanks separated so that they can be easily distinguished.

The drawings show one of my improved pads prepared for taking five copies, four of these to be given to the trainmen and one to be retained as the office copy or record. The number of copies that can be taken from the pad is indicated by the numeral 5 at the upper left-hand corner of Fig. 1.

Similar reference-characters indicate corresponding parts in the views.

Let the letter A designate the cardboard center and B' B' B² B² the flexible opaque sheets doubled around the part 5. In preparing this pad the sheets B² are first placed around the part A, the extremities of the outer sheet B² being fastened in any suitable manner, as by a small gummed label 5, which is attached to one extremity of the outer sheet B² and lapped over the edge of part A and the extremities of the inner sheet B², and fastened to the other extremity of the outer sheet B². This fastens the two sheets B² to the cardboard piece A. The opaque flexible sheets B' are then doubled in like manner around and on the outside of the outer sheet B². A gummed label 5 or other suitable fastening device is then attached to one extremity of the outer sheet B', passed over the edge of the part A and the extremities of all the inner sheets, and fastened to the other extremity of the outer sheet B'. This act completes the fastening of the four flexible sheets and the cardboard part A together with sufficient security for all practical purposes. The sheets B' and B² are carboned or otherwise prepared on their inner surfaces, so that any matter written on the outer surface of the outermost sheet will be copied on all the inner flexible sheets and also upon the cardboard writing-bed A. The portion of the order exposed in Fig. 1 will be copied on one side to the part A, while the

matter exposed in Fig. 2 will be copied on the opposite side of the part A, both surfaces of which are thus utilized, whereby the size of the office copy or record is reduced to a minimum. When the matter exposed in Figs. 1 and 2 has been written on the pad, the seal 5, holding the two sheets B', may be broken by running the point of the pencil under it. The two sheets B' may then be removed from the pad, one being given to the conductor and the other to the engineer of train No. 10. Afterward by breaking the seal holding the two sheets B² to the part A the sheets B² may be given to the conductor and engineer, respectively, of another train, the cardboard copy A being retained by the operator as the office copy.

It must be understood that the cardboard sheet A may be the full size of the other sheets. In this case the latter will not be doubled, and the sheet A will only be written on one side.

Having thus described my invention, what I claim is—

The herein-described train-order-blank pad comprising the inner cardboard sheet A forming the writing-pad and adapted to receive a copy of the order, and the flexible sheets B' B² bent around the inner sheet A, a gummed label applied to the edges of the sheets B' B² on opposite sides of the writing-pad for the purpose of holding the sheets in place on said pad, the inner surface of the sheets B' B² being carboned or otherwise suitably prepared to produce a copy on the adjacent surface of the next sheet, while the outer surface of the sheets B' B² are adapted to be written upon directly with a pen or pencil, substantially as described.

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

FRANK W. WEEKS.

Witnesses:

ALFRED J. O'BRIEN,
G. J. ROLLANDET.