Matt Reiner; vice-president, Ed Eagan, Art Charon and John Corton; treasurer, F. M. Young; recording secretary, J. M. Kearn; financial secretary, Ed Burch. The delegates in the field to go to Denver at the session of the International are F. M. Young, Ben Flood, Matt Reiner and Frank Devor.

The pressmen's, stereotypers' and electrotypers' annual ball at Masonic Hall on the evening of February 28 was a grand success, over two hundred and twenty-five numbers being sold. The affair was conducted in a creditable manner, and a very enjoyable time was experienced by those present. MIKE.

UNIT-MADE TYPE BODIES.

To the Editor: NEW YORK, February 26, 1889.

During the past two or three years, I have paid considerable attention to the subject of unit-made type bodies, and, after a long series of experiments in connection with the problem, have reached results that I think will be of interest to both typefounders and printers. At any rate, whatever may be the value of my conclusions, so far as I am concerned they are open to free adoption and use by anyone.

While my investigations in this line have been pursued with special reference to the requirements of automatic machine composition (a scheme upon which I have been long engaged, and of which several successful exhibitions were recently given to members of the press, and to other interested parties in this city), I have thought that a satisfactory unit-type would also be of utility, both in ordinary hand composition and in key-board machine work.

In order to set type automatically to the best advantage, the strip of perforated paper that is used to control the action of the machine, besides having indicated upon it the representatives of the letters, figures, punctuation marks, etc., must also have the representatives of the "reader's" corrections, and of the proper spaces for exact justification. But it is not possible to justify automatically, with anything more than an approximation to precision, while using types cast on bodies of such irregular, runningwise widths as are met with in the fonts now in common use, for the reason that, with the exception of the spaces and quads, and a few others that are not letter-types, the width of one type body bears no definite mathematical relation to the width of any other type body. The only type now being made, so far as I am informed, that is an exception to this rule of systemless body-widths is the "self-spacing" type of Benton, Waldo & Co., of Milwaukee.

But it would seem that this subject of unit-made type bodies is not so new as many of us have been led to suppose. In the year 1881 a United States patent was granted to Henry H. Thorp for "types made of runningwise widths, that are multiples of a measure of which the runningwise width of the narrowest letter-body represents the unit, said widths being also regular fractions of the height of the type bodywise." This patent is a very narrow one, and it would hardly be practicable to make type in accordance with it from which impressions could be printed that would please the eye.

Two years later, Linn Boyd Benton, of Milwaukee, secured United States letters patent for "a font of types, the bodies of the characters of which are, runningwise, all multiples of a unit, and the spaces of which are similarly equal to said unit and multiples thereof." This verbiage, reduced to plain English, means "a font of types the bodies of which are, runningwise, all multiples of the width of the thinnest, or the hair-space."

But the idea of constructing a unit-made type, with a view to greater ease in spacing and justifying, dates back much farther than the two patents to which I have referred. Nearly thirty-five years ago, one Martin Wiberg filed an application for letters patent in England for "improvements in *the construction*, setting up and distribution of types for printing," in which the following claim is distinctly made: "I construct each type, though of different thickness to others, yet of a thickness which will be a multiple of which all the others are also a multiple, by which I am enabled to obtain greater facility in 'spacing.'" And then, as establishing the inventor's meaning in regard to the spacing beyond any possibility of doubt, he adds: "The 'type-collector' may have applied to it an indicator, acted upon by the type as collected, to show and thus facilitate the 'spacing' required."

This claim of Wiberg, which is set forth in his English Provisional Specification, A. D. 1854, No. 1,548, filed on July 14 of that year, is a very broad one, and seems to cover almost everything in the way of unit-made types that could be thought of. But as Wiberg's specification would naturally be classified under the head of "Improvements in mechanisms for setting and distributing types for printing," rather than under "Improvements in the construction of types for printing," it probably did not come to the notice of the United States patent office examiners who passed upon and allowed the claims of Thorp and Benton. However that may be, I am frank to admit that the suggestions as to the construction of unit-made types that I am about to present are fully covered by Wiberg's claim, and are, therefore, public property for what they are worth.

In my earlier experiments in planning a unit-type, I failed of success, as did Thorp, because I looked for the unit of the runningwise widths in some fractional part of the square em of the type; but later on I decided to discard the square em of the type altogether, and to adopt the width of the body of the lower-case m as the standard, and to take some certain fractional part of that width as my unit; and on May 17, 1887, in a letter to Messrs. Farmer, Little & Co., of this city, I stated my conclusions in this respect.

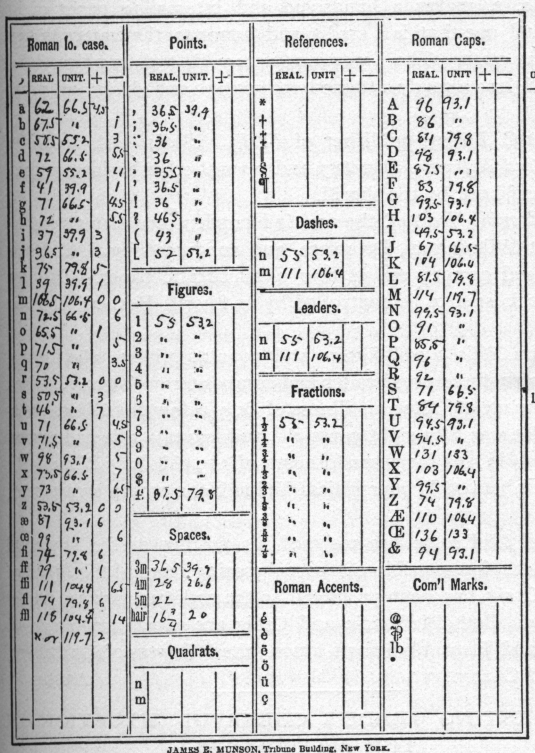
During the following month of June, only a few weeks later, at the convention of the International Typographical Union, held at Buffalo, Mr. W. B. MacKellar, of Philadelphia, presented his new plan of type measurement, in which he proposed "to abolish the em quad (or the square of the type) as the standard for measuring matter, and to adopt instead the letter m of the font." This somewhat curious, but certainly most fortunate, coincidence of suggestions to adopt m as the standard of two different kinds of type measurement, gave me at the time very great encouragement.

Now, without going into the details of my numerous experiments in this direction, I will simply state the conclusion arrived at, and say that I have found that, all things considered, decidedly the best unit from which to construct the various type bodies of a font is the eighth of the width of the lower case m. Any typefounder may apply this principle of unit-construction (the eighth of the m) to the different fonts of plain type now made by him, with the following results: The number of widths of type-bodies will be reduced to nine only, and, at the same time, the appearance of the faces of the types will not be changed. The general plan by which this reduction is brought about is, to first ascertain, by means of a micrometer-caliper, the exact width of each type, and then, unless that width be right already, which sometimes is the case, carry it to the nearest multiple of the unit. For example, let us take MacKellar's Brevier No. 16. The width of lower case m is .1065 of an inch. This divided by 8 gives .0133 as the unit; and we have: 2 units=.0266; 3=.0399; 4=.0532; 5=.0665; 6=.0798; 7=.0931: 8=.1064; 9=.1197; 10=.133. Now, the thinnest letters of the font are f (.041), i (.037), j (.0365) and l (.039), and these should be cast on a 3-unit body (.0399); the thickest lower-case letters are m (.1065), ffi (.111) and ffl (.118), and these are all best accommodated by an 8-unit body (.1064); for there is really no reason why ffl should be cast on a thicker body than that given to ffi. Capitals W (.131) and Œ (.136) are the thickest letters of the font, and they go to a 10-unit body (.133).

By referring to the accompanying "scheme" for this font of type (MacKellar's Brevier No. 16), it will be seen just exactly how each type-body is affected by the change. The column headed "REAL," gives the actual measurements of the bodies of the types, and the one headed "UNIT," gives the corresponding unit-bodies of the same types. The columns marked + and — give the amounts either added to or taken from the various bodies in order to make them conform to the unit rule.

Attention is particularly called to the excellent results in respect to the widths of the bodies of the spaces, quads and points attained by this proposed system. The 3-unit and 2-unit spaces

are not perceptibly different in width from the present 3-em and 4-em spaces of the present style of type. The hair-space contains 1½ units, which space may be used when required, provided only



that two hair-spaces are always put in the same line. As two 1½-unit (hair) spaces equal a 3-unit space, the justification is not disturbed.

One decided advantage with this unit-type is the fact that the spaces and quads will be proportioned in width to the fatness or leanness of the particular font to which they belong, instead of being aliquot parts of the square of the type, and hence always of the same widths for all fonts of the same sized types.

JAMES E. MUNSON.

FROM BALTIMORE.

To the Editor: BALTIMORE, March 2, 1889.

In a recent letter to THE INLAND PRINTER, I stated that the employing printers of Baltimore were without organization, but such is not now the fact, as a Typothetæ has been formed here since my correspondence last month. It is generally admitted among the craft in this latitude that the printing business of Baltimore is sorely afflicted with a complication of maladies, one of which may be said to act upon the trade like a blight, and may be designated by that not very elegant, yet expressive, phrase, "throat-cutting." While invitations were mailed to every printing firm in the city to attend the initial meeting, but thirty-two were present. With this contingent the Typothetæ organized and claimed a local habitation and a name. The officers elected, to serve one year, are: President, Charles H. Eavens; first vice-president, John P. Kurtz; second vice-president, F. W. Koch; secretary, John S. Bridges; treasurer, F. L. Morling; executive committee, Charles Fleet, B. H. Jones, John H. Griffin, George F. Nicholas and E. P. Read.

While a rose by any other name will smell as sweet, it makes considerable difference as to the pronunciation of a word by the manner in which you accent it. As Webster's unabridged is without the word "Typothetæ," and as Greek scholarship is not absolutely necessary to the printer, it may not be considered surprising, perhaps, when it is stated that some time was occupied at a late meeting of the Typothetæ in a discussion as to the proper pronunciation of that term. Mr. Morling stated that he had asked several college men, and they put the accent on the syllable next to the last. President Eavens, of the firm of Thomas & Eavens, a most efficient presiding officer, and who is a good parliamentarian withal, said that the question how to spell, pronounce and define the word had been a subject of much consideration all over the country, and that the authorities had decided the accent must go on the second syllable.

It would be unfair to assume that the Typothetæ of this city, which has connection with the national body of that name, is necessarily hostile or inimical to the typographical union, for such is not the fact, I am led to believe, as its object is, as set forth in the preamble to its by-laws, "to improve the trade, to cultivate a just and friendly spirit among the craft and to protect and assist one another when occasion may require." The present is an era of organization, and the master printers of Baltimore do not intend to be an exception to the general rule.

The *Telegram*, one of Baltimore's oldest weeklies, has just moved into new and handsome quarters on Baltimore street, opposite the office of the *Sun*. It formerly occupied the present site, but the old building having to give way to a more modern structure, the *Telegram* people were forced to locate, temporarily, elsewhere. It may be remembered that in a late correspondence something was said about this journal's using plate matter, contrary to a law of the local typographical union. Notwithstanding the editorial announcement made, after the withdrawal of plates a short time ago, that the paper in a few weeks would resume its ten pages—the two extra pages having been made up invariably of plates—I have it on good authority that the *Telegram* will not resume, so far as plate matter goes. This, it may be surmised, will be set down by the typos as another "union victory," while some employer or other, perhaps, may be inclined to call it another piece of "trades-union tyranny."

Mentioning the *Sun* office reminds me that I had occasion today to visit that building of corrugated iron front. In a previous letter brief mention was made of the many improvements which the interior of this establishment has lately undergone. The building has been made thoroughly fireproof. The editorial department, formerly on the second floor, where elbow room was at a premium among the pencil pushers who mold public opinion, is now located in the spacious third story, and like the newly fitted-up composing room immediately overhead, must be refreshing for some newspaper men to look in upon, such is the air of neatness, order and cleanliness which pervade its every nook and corner. One may enter here in vain to discover the conventional editor; I mean that too commonly accepted oracle of the tripod as described by the Bill Nyes, the Arizona Kickers, and some of the illustrated papers, with his feet resting upon the editorial desk, a huge pipe in his mouth, while a stray cockroach or two skirmishes in the neighborhood of the paste pot. It may be inferred that smoking is strictly forbidden in the sanctum when one sees on the white walls of the passage-way leading thereto a number of placards bearing this injunction: "Don't smoke; don't spit." I found handsome city editor Deshields enjoying his cigar, but he was doing his *puffing* at the street entrance.

A number of employing printers of this city make complaint about the high price charged by union compositors engaged upon bookwork. The former say 45 cents a thousand is too much (the rate here) when it is considered that for the same work New York pays but 35 to 42 cents, and Philadelphia only 38 cents. It is charged that these two last named cities draw work from Baltimore by means of this lower price for composition.

At this writing Baltimore is crowded with strangers, people attracted in this direction by the near approach of the inauguration at Washington, a locality, as is well known, not quite an hour's run by rail from this city. Speaking of the capital reminds me that some changes were made at the last election in the erewhile political complexion of Maryland's representation in congress; and, it is said, in consequence thereof, that a number of the typographical fraternity, at present holding cases in the government printing office, protégés of outgoing congressmen of democratic faith, are just now thinking of making preparations to fold their tents, and, like the Arabs, as silently steal away.

FIDELITIES.